


JAN/FEB 1996  
No. 37

# Backwoods Home



## magazine

*practical ideas for self-reliant living*



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## My view

### The new frontier

A week before putting this issue to bed, John Silveira, Lance Bisaccia, Don Childers, Richard Blunt, Martin Waterman, and I engaged in a furious exchange of ideas, stories, and art that affected a half dozen key articles in the issue. Not surprisingly, we made decisions quickly and effectively, much like any capable group of managers would make decisions about the business of any successful company.

Surprisingly, to many people, we made them while participating in what futurists like to call “the virtual office,” an office created purely by electronics. We communicated by computer, FAX, and phone. Rarely were any of us in the same building; in fact, Bisaccia was 40 miles away in Ashland, Childers was 700 miles away in southern California, Blunt 3,000 miles away in Connecticut, and Waterman 3,300 miles away in New Brunswick, Canada. Unfortunately, every time I turned around, Silveira was right there behind me.

This wasn’t some kind of experiment we were engaged in. It has just evolved as a convenient and quick way to put together the magazine, without any of us having to leave home. What is most remarkable about it is the fact that only six years ago, when this magazine was founded, almost no one was conducting business this way, let alone a small business like us with only four full-time employees.

This virtual office is part of the new technological frontier that is currently being settled, not just by businesses like this magazine, but by entire families engaged in the most ordinary pursuits. My daughter, Annie, regularly communicates via computer and modem with her friends across the country, and my wife, Lenie, keeps the family checkbook on the computer. *BHM*’s column about the electronic frontier, which started last issue, will show you many other ordinary things done with the new technology.

A lot of people who live in the country, however, seem to shy away from this new frontier, in part because it appears threatening and complicated, terribly unlike that simpler, less complicated way of life the country often promises.

The fact is that this new technology is not only pretty simple to use, once you take that initial step to try it out, but it is also fairly inescapable. It is changing the entire landscape of our future every bit as much as previous frontiers we encountered changed things. You can no more escape it than you can escape the fact the world is round, rather than flat.

Luckily, it’s not something you want to escape anyway. Computers, modems, FAXs, and the rest of the new technology are the new improved tools of the future. If we think



*Dave Duffy*

we’re too old to use them, our children certainly aren’t. And just as, 150 years ago, we wouldn’t have sent someone from Massachusetts out to the frontier without the proper tools—a plow, a woodstove, and a rifle—because you’d be ensuring the likelihood they’d fail, nowadays you’d be irresponsible to send your children out into the world without ensuring they were armed with the ability to use a computer.

Remember that old saying: “God created man, but Colt made them equal.” That’s how I feel about computers, especially when it comes to making a living. Today, entire businesses are being run by ordinary people out of their living rooms with nothing more than a computer and perhaps a connection to the Internet. Thanks to the computer this magazine is able to compete successfully with much bigger ones. Only 10 years ago it took a small fortune to start a magazine; today it takes a \$1500 computer.

Just as the early days of the western frontier were a place where an individual could cut out a fortune for himself, in these early days of the electronic frontier, there are thousands of places where enterprising men and women can make a living—or fortune—for themselves.

But, for everyone who went west in the early days of our country, hundreds—even thousands—of others played it safe and stayed behind in Boston, New York, Baltimore, and other safe cities. And, just as the western frontier was finally pronounced closed, someday the electronic frontier will lose its vastness and promise, and all the opportunities for the little guy will be gone.

I suppose this is especially good advice for anyone contemplating a move to the country but having trouble figuring out a way to make a living. Take a hard look at creating a job with a computer. We’ll try to help with our new column.

# NASA says these plants will help clean the air in your home

By Tommy Kovach

In researching ways to clean the air in space stations, NASA (the National Aeronautics and Space Administration) discovered that many common houseplants and blooming potted plants eliminate significant amounts of harmful airborne gases.

In addition to absorbing carbon dioxide and releasing oxygen into the air as part of the photosynthesis process, plants also absorb benzene, formaldehyde, and trichloroethylene. These are three of the worst offenders polluting the air of new homes and offices, or those with new furnishings.

Synthetic building materials and furnishings such as carpet, fabrics, laminated counters, plastic-coated wallpaper, and other materials can "off-gas" pollutants into the interior environment. When buildings are well insulated and sealed tightly to conserve heat or air-conditioning, the pollutants are trapped indoors.

If you live in a newer, energy-efficient, tightly sealed home, or if you work in a building with new furnishings or where the air feels stale and circulation seems poor, the liberal use of houseplants can help.

Most of the plants on the NASA list evolved in tropical or subtropical forests, where they received light filtered through branches of taller trees. Because of this, their leaf composition allows them to photosynthesize efficiently under relatively low-light conditions, which in turn allows them to process gases efficiently.

Soil and roots also play an important role in removing airborne pollutants. Microorganisms in the soil become more adept at using trace amounts of these materials as a food source when exposed to them for longer periods of time. Effectiveness can be increased if

lower leaves covering the soil are removed so as much soil as possible is in contact with the air.

The best results in air purification were obtained when small fans pulled air through a charcoal filter in the soil. This cleaned better than foliage alone or in combination with a passive pot of soil. However, even without the fan and filter, houseplants did remove trace pollutants from the air.

The recommendation generated by the NASA studies is to use 15 to 18 good-sized houseplants in six- to eight-inch diameter containers to improve the air quality in an average 1,800-square-foot house. The more vigorously they grow, the better job they'll do.

Although all houseplants probably are beneficial, not all are equally efficient cleaners, and one cannot assume they will remove all harmful pollutants. For example, no plant is of much help in removing tobacco smoke.

But plants do a good enough job of removing air pollutants to cause us to view houseplants as more than just an attractive feature in decorating the interior environment of homes and offices.

Here is the list of indoor air-cleaning plants compiled by NASA:

- **English ivy** (*Hedera helix*)
- **Spider plant** (*Chlorophytum comosum*)

- **Golden pothos** (*Epipremnum aureum*)
- **Peace lily** (*Spathiphyllum "Mauna Loa"*)
- **Chinese evergreen** (*Aglaonema modestum*)
- **Bamboo or reed plant** (*Chamaedorea sefritzii*)
- **Snake plant** (*Sansevieria trifasciata*)
- **Heartleaf philodendron** (*Philodendron scandens "oxycardium"*)
- **Selloum philodendron** (*Philodendron selloum*)
- **Elephant ear philodendron** (*Philodendron domesticum*)
- **Red-edged dracaena** (*Dracaena marginata*)
- **Cornstalk dracaena** (*Dracaena fragrans Massangeana*)
- **Janet Craig dracaena** (*Dracaena deremensis "Janet Craig"*)
- **Warneck dracaena** (*Dracaena deremensis Warneckii*)
- **Weeping fig** (*Ficus benjamina*) Δ



## It took a lot of weed-eating fish & work to make our lake usable

*By Martha Belding*

Do you have a pond or lake so choked with weeds you can't put a hook in it? We've been there. We live on Silver Lake, a four-mile long lake with an average depth of 10 feet, in southwest Washington. Three years ago it had aquatic weed to the surface on most of it. It was lost to weeds.

The local teacher of marine biology identified 97 varieties of aquatic weed in Silver Lake over the summer months. Not all species of weed grow at the same season. Aquatic weed in the lake grow like vegetables in a garden; each has a predominate season. But by July Silver Lake was unusable with aquatic weed to the surface on most of the lake.

A study by Washington State University (WSU) in 1989 said Silver

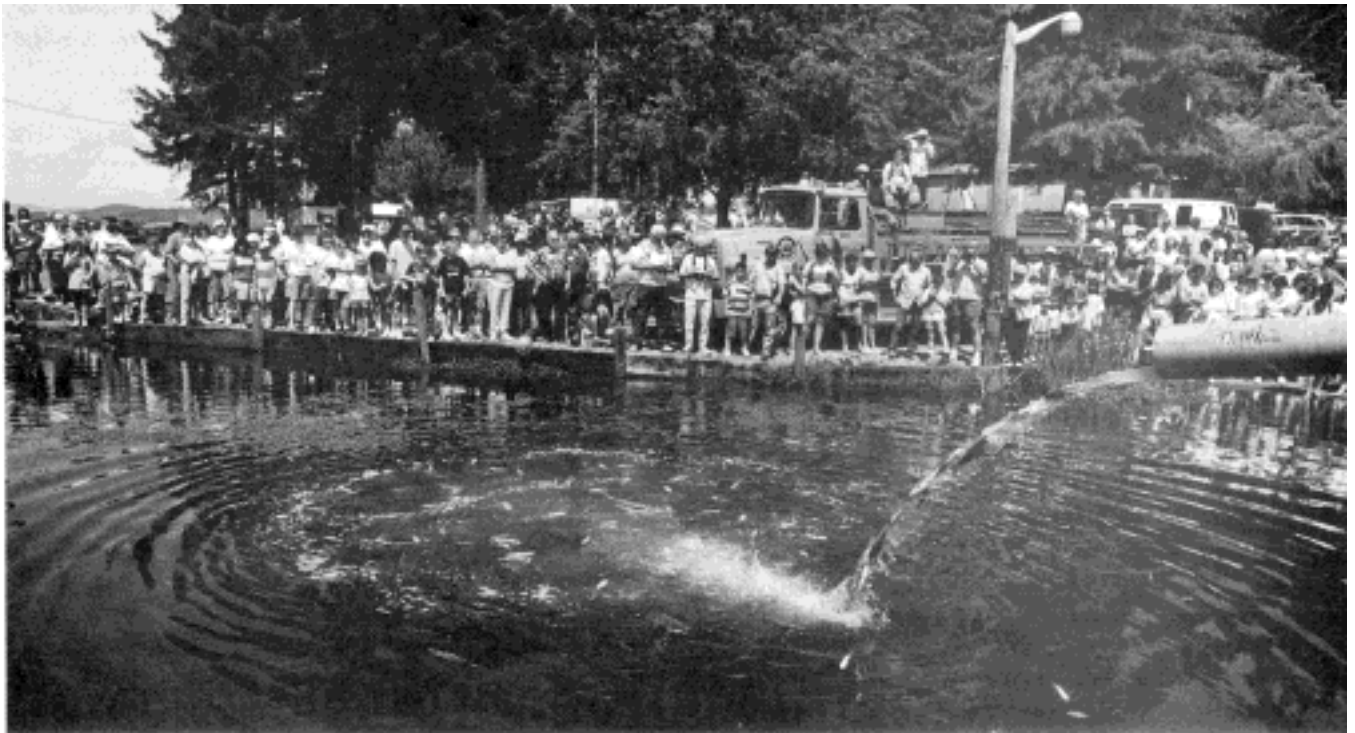
Lake would be a meadow in 10 years. We who live on the shore figured its demise would come much sooner, for weed had covered the lake bottom and grew to the surface on most of it. Weed growth had stopped fishing and restricted boating. The WSU study said Silver Lake was in a state of eutrophication, a word none of us ever heard of but we learned that eutrophication means dying from lack of oxygen, caused by excessive weed growth. We learned eutrophication can be a natural event usually taking many years to accomplish, but often hastened by actions of man, such as fertilizing tree farms, gardens, and lawns around the lake.

We tried everything to get rid of the weeds. We had weeds cut with a weed cutter, which the salesman was more than happy to demonstrate. The cutter

and barge, which we would need in order to haul weed to shore, cost \$75,000. But the weeds grew back more dense the next year after our demonstration of weed cutting, for each piece of weed left in the lake grew.

Some tried chemicals. One man living on the east shore put a commercial herbicide in the lake in front of his house and his neighbors almost had apoplexy. We are a diversified group of retired people, mill workers, and loggers. The chemical drifted. It was expensive, costing several thousand dollars, so he told us, for he had a large frontage. The weed grew back in a year and the applicator came back to add more. He needed a state permit for this and several neighbors were up in arms when a sign was posted, "Don't eat the fish for four days."

We looked into dredging. Our state says water from dredge spoils must not drain back into the lake. We pointed out that the water in the spoils came from the lake, but our Department of Ecology said spoils



*Dumping amur in Silver Lake to rid the lake of weeds*



must be deposited outside the watershed. This would take a lot of hauling of mud. Dredging itself was estimated to cost five-million dollars.

## Mowing weeds with fish

Then we investigated the white amur. The amur is a fish labeled exotic, non native to the United States, so requires a permit from your State Fisheries to use. The amur (*Ctenopharyngodon Idellus*) “grass carp” originally comes from the Amur River between Russia and China and were written about in Marco Polo time as a vegetarian fish. They are said to be a tasty fish of white meat with not as many bones as a common carp, and amur have been used in Europe for



*Author scooping weeds  
from Silver Lake*

centuries as a food fish. Amur have scales like the European carp, but are silver with the face of a Bass. They mow weed rather than pull it by the root.

They are strong and can break a five-pound test line at the sight of a net. They are curious and will strike at lures and jump when cornered. We have seen them jump three feet over a net when we tried to remove some to weigh them. They jumped over the net, around it, and under it. We sent the video of the operation to the T.V. show, America's Funniest Video, but nothing came of it. Otto Cunningham, a commercial fisherman in Melba,

Idaho says he has seen amur jump six feet when cornered.

We obtained from the Washington Department of Wildlife a permit to put 8” amur in a pen in the lake to see if they would eat the weed. After all the weed in a pen was gone, none jumped the fence to a place where the weed was abundant. They apparently only jump to escape.

They have predators. When 8 to 10-inch amur were first introduced at Silver Lake we lost many to the Eagles and Osprey which live on the south shore. We also lost some to otter in the creeks which feed the lake, but as the amur grew larger, and they grew 18 inches in 2 years, the Eagles could not lift them and amur became too quick for them.

## They are sterile

Triploids, an amur with three chromosomes, thus sterile, are now required by most states. The Diploid, or original two-chromosome amur, was used in Florida in experimental areas and in other southern states in the Sixties and Seventies, but because one amur can produce a million eggs, the threat of over-production has been held over the head of the amur since its introduction into the United States.

However, we can find no proof of reproduction in the United States except in strict laboratory settings. Here the eggs are stripped from the hen and fertilized with sperm from the male, and the chromosomes of the eggs are altered by pressure.

When seeking approval for the amur, we had to run down many “It’s rumored that” theories about reproduction to get the amur into Washington. But the specter of over production raised its head until a fellow named Steve Malone in Lonoke, Arkansas, incorporated a method of altering the chromosomes in the egg of the amur which made the egg produce a Triploid. Now, only the Triploid is permitted in most states.

The powers that be—Fisheries Departments, both state and national— are taking no chances with over production and each amur which leaves Arkansas to be shipped to a state permitting Triploids must be certified by the U. S. Department of Fisheries as disease free and sterile.

But, you may ask, how do I get amur for my lake or pond? Getting them may depend upon where you live. Check with your own Fisheries Department and your local fish biologist.

California requires approval by the Legislature, and only three southern California counties use them under the term research. That system, we are told by those working with amur in California, will change as soon as the California Fisheries Department sets a policy regarding the amur permitting process. Resistance to using the amur is strong in some areas. We are told that in northern California it is the commercial salmon fishermen most concerned about the impact of the amur on the salmon industry. Those working with the amur in California feel this will change in a few years as more is made known of the effects of amur on all types of fisheries.

## Stocking your pond

For you who live in a permitted state or one of the three counties in California where amur are permitted, here’s how you rid your pond or lake of weed using the amur.

1. Contact your local District of State Fisheries and Game and apply for a permit to use amur. In Washington this costs \$22. You will have papers to fill out listing location and size of pond, etc.

2. You must prove the amur cannot escape into another body of water. You may need to build a fence or retaining structure if your body of water drains into another.

3. Decide how many fish you need. It’s better to under stock than over

stock. Our Fish and Wildlife says it is very happy with the results here.

Some of us feel we may be overstocked and have contacted a commercial fisherman to advise us on removal of surplus fish, if necessary. He tells us he wouldn't try to remove amur in summer or spring, when they are lively and very difficult to catch but rather work in winter when amur are lethargic and he would try to net them.

You stock per vegetated acre. If you have a two-acre pond with one acre of it in weed, you consider only the one acre when discussing stocking. Ten fish per vegetated acre seems to be pretty standard, but all ponds and all weeds are different. If you start with five per vegetated acre, you can always add more. You will want cover for other fish.

Eight to ten inches is a good size for amur. Early spring is the best time to stock. It has been our experience that the amur will hibernate when weeds die down or water temperature drops below 55 degrees.

4. Order amur from a supplier. We got ours from Bob Hooper, at Hooper-Stephens, Route 2 Highway 31 So, Lonoke, Arkansas, 72086, phone: 501-676-2435. Our cost was \$3.37 each, delivered, and we got a lot of them. If you have only a few, yours will cost more per fish. A short order may cost as much as \$8 a fish. Amur can be air-freighted or delivered by truck supplied by the seller. In southern California call Mike Mesometo at the Imperial Valley Water Resource Lab in Brawley, California, 619-339-9565. His supply is limited, and as I write, he has only 1,000 amur in the 8" to 10" size for sale. Paul Beatty, PO Box 13212, Palm Desert, CA, 92261, Phone 619-568-5499, supplies for small ponds in that area. In Idaho contact Otto or Richard Cunningham, Cunningham Fish Farms, H.C. 79 Box 100, Melba, Idaho 83641. Phone: 208-495-2654. The Cunninghams have many kinds of fish for sale, but spring is the best time to place an order. In other states ask your Fisheries

Department for addresses of suppliers. Many states have wholesalers.

### Soft weeds only

If your stocking rate is right, your pond should be free of weed in two years. We're talking soft weed here, Milfoil, Elodea, etc. The amur's teeth are in their throat and they don't eat lily pads or hard stems. We've watched them suck in the weed and spit out the stem. If the lake is overstocked and they have absolutely nothing else to eat they will uproot a Lily Pad bulb for the new shoots, but its not a preferred food. Preferred foods vary with the water content. What is preferred in Silver Lake may not be the preferred aquatic weed in yours, but we didn't find any "soft" weed they would not eat. We were told by Brad Caldwell, who did the Colorado study, that the same species of weed in two ponds side by side supplied by two different water sources resulted in different plant species preferred. He wonders if it was the chemicals in the weed which caused this.

Life expectancy of the amur seems to be about 10 years, although some have lived 15, but we've been told they eat their weight each day and can eat themselves into a short life span. You will eventually need to restock. Most users we've talked with who have used the amur for several years recommend one or two per vegetated acre for maintenance restocking.

All of this is well and good for those in states which permit the amur.

For you who are not fortunate enough to live in a state where the amur are permitted, take heart. Until four years ago, Washington, where we live, was such a state, and we worked to get the amur approved for the state and thus Silver Lake by educating agencies. This is how we did it.

We told them all, by letter and phone, that Silver Lake, with 3200 surface acres of water, is well known as primarily a bass lake which also has

abundant pan fish such as perch, trout, blue gill, and crappie. But no one could fish it, for the aquatic weed grew to the surface on 90 percent of the lake and we couldn't travel 1,000 feet in a boat without cleaning the motor of weed. We couldn't fish, even with a "weed" hook we used a year earlier. Sailing was out, and we wanted the amur in Silver Lake.

Some time ago, I read an article in a magazine about Bill Whiting in Arkansas raising an aquatic weed eating fish, the white amur.

I wrote to Bill Whiting and asked, "How can we get amur in Silver Lake?" Bill answered, "In



*The amur are 8" to 10" when released into the lake*

Washington, you won't. It's illegal." He added, "from your letter it sounds like you have milfoil." (He was right.) He wrote, "Milfoil will spread like cancer..." (It did). "...and there is no way to stop it without the fish." This was a blow. He added, "Amur do not eat anything other than vegetable matter, and they will not reproduce. The real reason the fish are not being used is that vast amounts of federal and state monies are available to do and re-do the same research over and over. As long as the money is there they will keep funding their own research."

Boy, was he right on that one.

## **Form a citizens group**

It was soon obvious that we would need clout to deal with bureaucrats and agencies who either never heard of the amur or who wanted status quo, so we formed a citizens group with one goal, to put the amur in Silver Lake. We named our group COWSLIP, an acronym for Clean Out Weeds Silver Lake IS Possible. A Cowslip is a plant which grows in a swamp and we were rapidly getting a four-mile swamp in our front yard. Our slogan was "Save Silver Lake for the Generations Which Will Follow." And we used it.

We soon had 90 families as members. We sent letters to our state senator, Department of Fisheries, Wildlife Department, Department of Ecology, and the county commissioners, saying we want the amur.

## **Fighting the "studies"**

Then we ran smack dab into the world of studies that Bill Whiting told us about. We learned that companies are built on money from studies and universities thrive on them. Studies are big bucks. Results of studies make books, which we doubt many people read. We were stymied while Washington College of Fisheries studied the amur, with hefty million dollar grants from the Washington Department of Ecology (DOE). California people who worked with the amur told us Washington was reinventing the wheel. We moaned and we waited.

DOE had \$45 million a year for clean water grants, much of it going to studies and a small part earmarked for rivers and lakes. We found the track record for implementing studies and actually cleaning up lakes was dismal to say the least.

DOE said we must update the last study of Silver Lake if we wanted to apply for a grant to buy amur. An earlier study said the lake was dying from too many weeds. The new study by

WSU said, sure enough, the lake was dying from too many weeds. But this study gave us a chance to educate the WSU team about the advantages of using the amur. WSU agreed the amur was the way to clean up Silver Lake and said so in the conclusion of their study, though they still could not be used legally in Washington. About this time the people at Devils Lake in Lincoln City, Oregon, wanted to use the amur and we went to their meeting. They paid for the air flight of Scot Henderson, Director of Arkansas Fisheries, to Oregon to explain the use of the amur in Arkansas. We heard him tell them he felt, 10 or 12 amur per vegetated acre would clean up Devils Lake in two years. The citizens formed a group, named it PAL, and arranged to pay the group doing the Washington study, Washington College of Fisheries, a sum, we heard, of \$200,000 to become a study lake so they could stock Devils Lake with the amur. They were told to by the College of Fisheries study team to use 40 amur per acre.

## **Our own study**

While waiting for studies to be finished so we could proceed, we got a permit from the Washington Department of Wildlife to build a pen, in the name of research, in Silver Lake and stock it with amur to learn if amur would eat the weed which covered all of that area. COWSLIP stood the cost of \$600 for fencing in two pens 100 feet by 40 feet in two different areas of the lake, using chicken wire, iron posts, rock and a lot of labor. Bob Hooper sent us seven amur by air freight. The board of COWSLIP celebrated with champagne as the first amur were put in Silver Lake.

In two years the area inside our pen where we had six amur was completely free of weed and was home to large schools of fry, bass, crappie, perch, and blue gill. In our pens they were safe from predators. And the hungry

amur, with all grass gone, did not touch them.

"But the amur will eat other fish," some doubters told us. We answered, "They're vegetarians; if you put a cow and a horse in a pasture, when the grass runs out the cow won't eat the horse." We proved the hungry amur would not eat fry. We also proved we overstocked the area, for **all** the grass was gone, and we wanted some for habitat. Finally, the five-year study of the amur by the College of Fisheries was finished. The conclusion? They need to study a larger lake and DOE obliged with another half-million dollars to study a lake near the DOE office, for five more years they said.

This was a low point of our project, and we called all those people we had been writing to and said "NO WAY" would we wait another five years. We started a campaign for pledges for \$70,000 to buy 17,000 amur, which we decided would be a good starting number. Some of our more imaginative neighbors said we would use the local Volunteer Fire Departments' water wagon and go to Arkansas and get the amur and volunteered to do so. The Lake was unusable and what did we have to lose other than our freedom? Our 92-year-old neighbor volunteered to be the patsy and go to jail. We wrote to all those we had asked for help in the past. Our state senator, Linda Smith, called a meeting of all the agencies to meet at Silver Lake. Members of those agencies, including the state Director of Wildlife came to Silver Lake and it was decided we would not need to wait another five years but could get the amur the next spring. Our stocking rate must be set by the College of Fisheries who did the five-year study. After studying the amur five years they should be the experts. Right? Those doing the study said we should use 50 amur per vegetated acre and every acre in the lake was vegetated by this time. Fifty fish per acre was a long way from the 10 we expected to use. They decided Silver Lake had 1,610 acres of surface



water. We knew we had 3,200 acres which meant we would get 26.6 amur per acre not 50.

## Financing

Now we needed money to buy the fish. Our donations and pledges would not stretch to cover 50 or even 26 per amur acre, plus a retaining structure. So, we went after the state grant money in the Clean Water Fund, much of which had been going for studies. We made an application which gave points for approval of a grant and we scored very high on public participation. We scored very high on need. We scored low on public access, an absolute necessity, said DOE, for a grant, for the only public access was the Washington Fish and Wildlife boat launch. The grant money was to be distributed and granted through the Washington Department of Ecology, (DOE) which held the purse strings, and DOE said our county must participate by furnishing 25% of the funding, one half of which could be in in-kind services, such as use of an office, etc.

Our county commissioner said no. The county would not provide public access to Silver Lake or pay 25% of the cost of providing fish. We pointed out to him that the WSU study said the project should cost \$675,000 including the cost of a new study of \$198,000, and the county would be reimbursed for administering the grant. The county said okay and hired a project manager at \$50 an hour. DOE was willing to loan \$1.2 million for the project. So the cost of the project was budgeted—not the \$675,000 proposed by WSU but \$1,701,500, with the county to pay \$425,375, one half of which was to be cash or \$212,688.

Studies which were estimated by WSU to be \$198,000 went to \$555,000. When we asked why, we were told because the money was there. We were told by the county administrator of the grant that we were “going for the whole thing.”

But unless you get involved with studies you won't need money in that large amount to put amur in your pond or lake. The people at Ilwaco, Washington, determined they needed amur for their county lake, Black Lake. They figured they could clean it of weed with amur for \$4,500, and were going to do it with community fund raisers. We had no problem getting pledges (which we released when DOE came in with a grant.) The determination to save our waterways and lakes is strong with the general public, and once the word is out that someone is doing something about it, you have no problem getting support; we didn't.

## Success

May 16, 1992, 83,000 amur 8 to 10-inches long were put in Silver Lake with much fan fare. A parade proceeded the delivery truck, which came from Lonoke, Arkansas, and arrived five minutes before the start of the parade. COWSLIP outfitted it with a sign, “Silver Lake or Bust.” The local volunteer firemen led the parade with the fire truck covered with kids and balloons. Honking vintage cars followed, and on a barge in the lake local Old Time Fiddlers played ‘Turkey in the Straw.’ COWSLIP fed the crowd 400 hamburgers, 400 hot dogs, and 400 sodas, all of which were paid for with money COWSLIP members earned working at the Freeway Rest Stop giving out cookies and coffee for donations from travelers. The introduction of amur in Silver Lake and the celebration accompanying it made the headlines of the local weekly paper.

Two years after introduction of the amur, all the weed was gone. The WDFW fish biologist in charge of Silver Lake says that there has been no impact on other fish. In fact more and larger fry abound for they have more oxygen and more chance at getting to “critters” they eat. Bass fishing has never been so good as the first year of weed removal. A recent count shocked the WDFW, as they found

more bass and pan fish and larger bass than they expected. The eight to ten-inch amur which we put in the lake grew to 24 inches in two years and weighed an average of six pounds. They ate a lot of weed.

## Pitfalls

Don't overstock or you'll have a mud hole. Amur are mowing machines. Start small and add amur as needed. The fish are sterile and you will eventually need to restock.

The amurs' natural habitat is a river and its natural instinct is to go up river to spawn. Though the Triploids' chromosomes have been altered to make it sterile, the urge to spawn is apparently still there. Be certain your retaining structure is especially secure in the spring. In May we saw thousands of amur (it seemed like every amur in the lake) at our retaining structure nudging the iron posts. Some escaped. We had a diver replace moved rock.

Unless the structure is firmly planted in the hard pan, amur can dig under it. They dig under Lily Pads for roots, so it stands to reason they can dig in soft mud under your retaining structure. In the pen COWSLIP constructed, we used chicken wire fencing bent outward one foot at the lake bottom so rock of at least 10 inches in diameter could be placed on it. This confined amur in a pen even when grass was gone and they could see weed on the other side. They can dig and will, so secure the bottom of your retaining structure with rock.

As I write, I'm looking at water skiers, fishermen, and kids swimming and laughing. Was it worth it? You bet. We got our lake back. You can too. Δ

*The power to tax involves the power to destroy.*

—John Marshall  
1755-1835

Chief Justice, U.S. Supreme Court



## Commonsense precautions help keep kids safe

By Margaret Wright

Children in nature are like little peas in a pod, safe as long as they are secure in their little shells . . . but they can get in serious trouble when the shell is open. Having raised children in backwoods and suburban settings, I can attest to the fact that there is no better place to raise a bunch of happy, healthy offspring than a country home. Usually the only time problems come up is when complacency sneaks in and we become too comfortable with our surroundings. Even though we live far off the “beaten path,” away from the busy streets and all the terrible possibilities that lurk there, we still have to be careful. Children, in their innocence, need special care and training to enjoy the freedom associated with the backwoods lifestyle.

Toddlers are always at risk of wandering away. They can disappear in seconds and can travel great distances. Our neighbor’s two-year-old daughter was lost between the place her dad was cutting wood and the family home, a distance of about 300 feet. In just a matter of minutes, her parents knew she was missing. After a massive search, she was located about three miles away in the opposite direction from the house. Those little legs can go a long way in a big hurry.

Bells on the shoes and bright clothes are two ways to see and hear the child easily. Fences, of course, are a good barrier to keep them from following the family dog or the pretty butterfly off into the trees, but a fence will only contain the child who consents to be contained. For us, it seems that a red-headed youngster cannot be confined no matter what we do, so we just watch him closely.

If for any reason you think your toddler is out of his safe area and you cannot find him, call for help right away. Emergency personnel would



much rather help locate an “easy find” than one who is seriously lost.

### Are they safe to eat?

Keeping the children’s play area free of not-so-healthy plants can be an ongoing problem. I am especially wary of the mushrooms that flourish after the rains of spring. Some of them really do look quite appetizing, but would be pretty hard on the tummy. Rake in hand, I go on mushroom patrol regularly. I mash them up and spread the mess around for compost.

My grandson picked all the beautiful red peony flowers this year. Of course they were in full bloom and he said “Yummy.” I tried to convey to him all the reasons why we do not pick Mamaw’s flowers, and I asked him if he was going to do it again. He promptly said “Yes!” They did look good enough to eat, but I never dreamed someone would try it.

Children learn quickly that sweet peas and raspberries right off the vine

taste real good, but they can’t tell the difference between the good and the bad plants. We teach them they are not to pick anything to eat unless they ask first. Of course, Papaw’s strawberries are taboo under any circumstances. He is the only person allowed to pick them. (Wonder why he is not the only person allowed to *weed* them.)

I always planted a bed of Little Marvel peas for my children, and they loved to stand in the garden eating them. Now they are teaching *their* children to eat Mamaw’s peas. We have to watch closely that they don’t pick them too soon, but it’s fun. The little fellows can pick any raspberries they can reach. The older kids have to help me pick, and then they can glean the leftovers for the day.

Every year we have an ongoing lesson on edible plants. Children like to go hiking, looking and comparing all the plants they find with the pictures in the book. I use the books, [\*A Golden Guide to Weeds\*](#) from Golden Press

and A Field Guide To Rocky Mountain Wildflowers, published by Houghton Mifflin. They have color pictures, and the descriptions give a lot of useful information. You can find both books in used book stores for a couple of dollars each. Making a notebook with pressed plants, each labeled with its name and use, has been a school assignment for each of my children. They really enjoyed doing the project, and they learned a lot.

It is necessary to adjust perimeters as the children get older. Our four-year-old is allowed to ride his bike on the paths and in the lane that goes from his house to Great-Grandma's. We spray-painted a big red line across the driveway about 30 feet from the main road, and this keeps the kids away from the traffic. Bright clothes are a good idea at this age, too. The four- to six-year-olds are probably more apt to wander out of curiosity.

## **Lost? Wear a whistle, hug a tree, sing a song**

We taught our son to "hug a tree": if he is lost, the child is to find a big, friendly tree, then sit and hug it till someone finds him. We also taught Benjamin to sing "Row, Row, Row Your Boat" if he was scared or lost. Most children know this song, and a singing child is easier to find than a quiet one. (It works, even though I never expected the proving ground to be K-Mart.) Also, a child tired from screaming for help is more apt to go to sleep and will be harder to find.

Woods have animals. When we move into the wildlife's territory, we need to be very careful not to intrude too much. Never are children to interfere with the wildlife in any way. If they think something is sick or hurt, they come tell an adult, and we investigate and decide what needs to be done. We took care of an orphaned "Bambi" one year, and that was a neat experience. Only under extreme circumstances should we have to intervene where nature is concerned.

My children always wore a whistle when going out to help dad cut firewood. We knew they would be in alien territory, and a whistle would come in handy if they became separated. We still use whistles a lot if we are going out of our safe zone. Adults can become lost, too.

We have all heard the stories of survival when the victim said, "I remembered my mom said...." So I never hesitated to remind the budding woodsmen of some little safety tip as they went off to be Daniel Boones. The reply was always, "Aw Mom," but several times they used some tid-bit I had reminded them of, to keep themselves safe and healthy.

A big cow bell hangs by the front door. I use it for calling in the troops. When I haven't seen or heard from someone in a while, I just step out and shake that old bell. Voices respond from all over. It has saved me a lot of steps, not to mention wear and tear on the throat. The bell also works great in an emergency. After cutting my hand cleaning veggies one morning, I was a little woozy. I rang that old bell and had plenty of help in a flash. In the reverse case, if the child is in the house and I am outside, they can ring the bell for attention. I do get a little upset if they ring the bell because they want a treat, but I can live with a few false alarms.

## **Tree houses are fine but make them safe**

Tree houses are an absolute requirement for a backwoods home with children. Make sure they are a reasonable height. (The house, not the kids.) I didn't think we needed one like Swiss Family Robinson, so we had a building inspector (me) keep a watch on the progress of the construction. Walls are important. The height of the walls should be such that the kids cannot easily fall over them. Clearing out from under the structure is critical. A stack of firewood or building lumber can increase the injuries if a construc-

tion worker should tumble. It helps to fill in under the tree with sand or other materials that can soften the fall if it happens. When Benjamin fell out of his tree house, the doctor told us he sees several kids a year that have toppled out of tree houses. I personally think safety harnesses and hard hats should be required, but that probably would be hard to enforce. We do have two absolute rules: No throwing things off the tree house, and you have to come in the house to go potty (or at least down on the ground).

## **You shoot it, you eat it**

The tree house age also seems to be the BB gun stage. Gun safety should be in effect no matter what the type of gun or its potential for causing injury. Our hard and fast rule is: If you shoot something, you *will* be prepared to clean it and eat it. I know for a fact that rule has saved many a little bird's feathers (though it did not help big sister's car window).

Older (elementary school age) kids need wider spaces, and we taught them to stay where they could see the house. It depended on the direction they took, but usually they could wander off a safe distance and still feel independent. Remember that the look of the terrain changes with the seasons, and the children need to be reminded of that. Several winters ago, Benjamin became lost in a snow storm because the neighbor's fence, ten acres away, was buried in the snow.

We are very careful to respect the neighbors. The young explorers are repeatedly warned about going on private property, and we never go over, under, or around a fence. We always try to be good neighbors, and teaching the children "neighbor etiquette" can prevent problems.

Teenagers, those invincible people who cannot get hurt (yeah right) are a special concern. Teaching them woods safety should be initiated from the time they are little, but if they're new



to the woods, you have to play catch-up.

Since firewood is our source of heat, we have to maintain chain-saw and ax safety procedures. To maintain chain-saw safety, there is one law in effect: they are not allowed to touch it. Just a simple *No!* The ax is OK after they are taught how to use it. We make sure they never chop wood with other kids around.

Keeping the tools picked up is an ongoing problem, but we try real hard. I made a fence out of wood pallets around the wood pile area, and that makes a great place to store the tools. I put the handles down through the top of the pallets so they are out of the way and I can find them. This also protects my garden tools from the little ones dragging them off.

## Wood piles are dangerous

A wood pile is an accident waiting to happen. Never let any child climb on a wood pile. We try real hard to keep them away from the stacked wood altogether. Woodpiles, no matter how well stacked, can shift and fall. A little body cannot withstand the crush of the wood. (Every parent and older child should learn CPR. First

Aid is a nifty mini-class for a home-school support group.)

With the tree house injury, I learned that emergency personnel are not equipped with radar to find me way back in the boonies. We measured with the car, from the main highway to the county road and then from the county road to our drive, so we could tell them exactly how to find us. We also put red plastic streamers on the newspaper boxes out by the county road, so there is no room for misunderstanding where we are located. (This also helps if you are selling eggs, etc.)

The perimeter for the older kids was expanded as they grew. Starting out with the fenced yard, it grew to be the area around the house. Then their area was the confines of our property. Being bordered by National Forest can present a problem, so be sure the landmarks are visible year-round. A season-by-season hike will help kids become acclimated to the new appearance of things.

Now that Benjamin is a teenager, he is woods smart, but we are still careful. Rules are in place not only for his safety, but for other people also. He always rides his motorcycle with a

buddy. They are only allowed to have two people on a cycle in an emergency. (Yes, running out of gas is acceptable.) Even if it's Dad, they always have to tell someone where they are going and an approximate return time.

Whether he's hiking, hunting, or riding his motorcycle, we make sure Benjamin has all the proper gear. I also include a small fanny pack with identification, a first aid kit, and a personal alarm. He can turn on the alarm if he crashes and needs help or if he is lost. I think it might also deter a bear or other beast if necessary. Even if it serves no purpose, it makes me feel better.

No matter how well prepared we are, something will always come along to remind us how vulnerable we are. Each new experience teaches something useful, and we just regroup and add the new information to the old.

While not taking away the freedom and innocence of childhood, we need to teach our kids as much as we can to take care of themselves. Caution, not paranoia, should be the guide. Give 'em a big hug and turn them loose to learn and enjoy their environment. Δ

## A BHM Writer's Profile : Massad Ayoob

In June of 1998, Massad Ayoob received the Outstanding American Handgunner of the Year award, by vote of his peers. It was the culmination of a body of work that had begun in 1971.

Ayoob has published over two thousand articles on firearms, self defense, law enforcement and related topics. He has been handgun editor for *Guns* magazine for more than 20 years, law enforcement editor of *American Handgunner* for nearly as long, and also serves today as contributing editor to *Combat Handguns*, *Gun Week*, and *Guns & Weapons for Law Enforcement*. He has been a contributor to *Backwoods Home* since 1993. He is the author of several books, including the authoritative text on deadly force "In the Gravest Extreme: the Role of the Firearm in Personal Protection."

Previously, Ayoob had received the Roy Rogers Award for promotion of responsible firearms ownership and the James Madison Award for his advocacy of the right of law-abiding citizens to own and carry guns. He has been a part-time but fully-sworn police officer for almost 25 years, presently serv-

ing as a captain with a municipal PD in Northern New England.

He has won several state combat pistol championships and two regional championships. He is present New Hampshire State Champion in the Stock Service Revolver class of international Defensive Pistol Association (IDPA) shooting.

Since 1981, Massad has been the full-time director of Lethal Force Institute, PO Box 122, Concord, NH 03302, an organization that offers training in judicious use of deadly force and firearms at locations around the country. Law-abiding private citizens are welcome there. Finally, Ayoob has chaired the Firearms/Deadly Force Training Committee of the American Society of Law Enforcement Trainers (ASLET) for more than a decade, and is a long-time member in good standing of, and frequent lecturer for, the International Association of Law Enforcement Firearms Instructors (IALEFI).



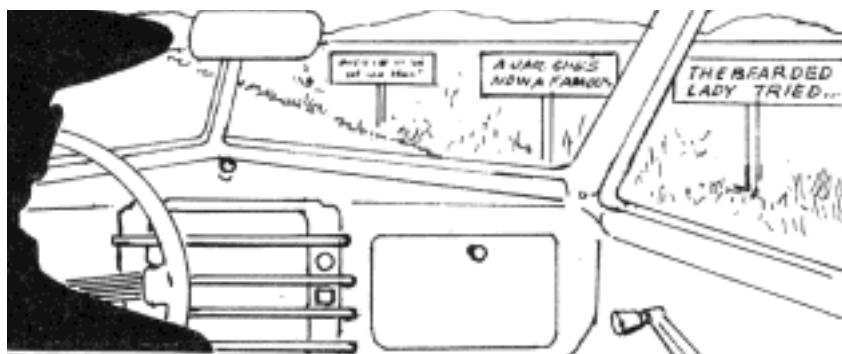
## Feeling nostalgic? Now you'll rave! Here's the story of Burma Shave.

*By Martin Waterman*

I can remember taking a trip as a child and seeing my first Burma Shave signs. Technically speaking, after 1963 all the 7,000 or so sets of signs were supposed to have been taken down. Still, my discovery may not have been unusual, since even today sightings abound (though they're not as frequent as Elvis sightings). It could be possible that some of the thousands of signs that dotted the countryside were never taken down, or perhaps (and more likely) they are the work of some nostalgic farmers who recreated them.

Like many great success stories, Burma Shave started by happenstance. Burma Shave, a brushless shaving cream, was concocted by the Odell family. Its predecessor product, a liniment called Burma Vita, was not doing very well in sales, due to competition and to the fact that it could only be sold to people who were ill. It was suggested that it would be more profitable to market a product that could be used every day, such as Lloyd's Euxesis from England. This was the original brushless shaving cream that was available world-wide. A chemist was hired (Burma-Vita was one of grandfather Odell's homemade concoctions) and after about 300 mixtures were tried, Burma Shave was born.

However, inventing the product was not the key to success, and the product almost died several times because of poor marketing. One of the marketing schemes was called "Jars on Approval," in which the Odell boys would enter a man's office and give him a jar of Burma Shave on this basis: if he liked the product he would pay them 50¢ the next time they saw



him. If he didn't like Burma Shave they would take back the unused portion and "remain friends."

Then one day, Alan Odell came up with a suggestion. He suggested roadside signs like the ones he had seen on road trips when he was out trying to sell Burma-Shave. However, his father would not hear of such an idea, and was sure that the boy was just homesick because of all the travelling he was doing. Alan continued to lobby for his idea and finally his father gave in and gave him \$200 to try out his idea.

The year was 1925, and the automobile had people beginning to take to the roads of America. Second-hand boards were purchased, cut into 36-inch lengths, and painted. The original signs did not have a rhyme. Typically, four consecutive signs would read,

SHAVE THE MODERN WAY  
FINE FOR THE SKIN  
DRUGGISTS HAVE IT  
BURMA SHAVE

The signs were put up in a hurry before the ground froze solid on the two roads leading out of Minneapolis. There were about a dozen sets of signs put up on the two roads.

Not too long after that, the first repeat orders for Burma Shave were received from drugstores because the people who travelled the two roads

where the signs had been installed were purchasing Burma Shave from area drugstores. At this time, the business was broke, so the company was incorporated and 49% of the stock was sold to raise capital. Within three weeks, the shares had been sold, and in early 1926 the first sign shop was set up.

The signs continued to bring success and became more and more humorous. The six consecutive signs, when placed 100 paces apart, created something unique in advertising. Of course, in later years as the roads got better and cars got faster, the size of the signs and the distance between them had to be increased.

The consecutive signs commanded the attention of those reading them longer than any single sign could ever hope to do. The entertaining signs helped make long journeys more entertaining, and people became addicted to reading them.

By having the rhymes build suspense until the fifth sign, Burma Shave forced those reading the signs to focus their attention on reading the full series of signs so that the message could be understood and savored like a good joke. For instance:

THE BEARDED LADY / TRIED A JAR  
SHE'S NOW / A FAMOUS  
MOVIE STAR  
BURMA SHAVE



or

IF YOU THINK / SHE LIKES  
YOUR BRISTLES  
WALK BARE-FOOTED  
THROUGH SOME THISTLES  
BURMA SHAVE

Eventually, the signs spread to every state, with a few exceptions. No “official” signs appeared in Arizona, New Mexico, or Nevada because of low traffic density. Massachusetts received no signs because winding roads and excessive foliage made it hard to find enough locations to justify placing them there.

The slogans were very powerful, so much so that the Burma Shave Company did not even feel the effects of the Depression. The rhymes aimed at motivating potential purchasers of Burma Shave were not just cute, but were probably some of the best advertising slogans ever written. Some of them suggested to men that they would do better with the women if they used Burma Shave:

SHE EYED / HIS BEARD  
AND SAID NO DICE  
THE WEDDING’S OFF  
I’LL COOK THE RICE  
BURMA SHAVE

or

A CHIN / WHERE BARBED WIRE  
BRISTLES STAND  
IS BOUND TO BE  
A NO MA’AMS LAND  
BURMA SHAVE

Another good example is

USE THIS CREAM / A DAY / OR TWO  
THEN DON’T CALL HER —  
SHE’LL CALL YOU  
BURMA SHAVE

Not overlooking the spending power of women, the company put up rhymes to lure them to purchase Burma Shave for the men in their lives:

A CHRISTMAS HUG  
A BIRTHDAY KISS  
AWAITS / THE WOMAN  
WHO GIVES THIS  
BURMA SHAVE

Others slogans suggested that there was no better product or substitute for Burma-Shave:

SUBSTITUTES / ARE LIKE A GIRDLE  
THEY FIND SOME JOBS  
THEY JUST / CAN’T HURDLE  
BURMA SHAVE

Though the Burma Shave Company prospered, there were many challenges, too. Not only was there fierce competition, there was also the need to come up with a continuous supply of superior verses. This was solved with an annual contest that paid \$100 for each verse used. There were thousands of entries sent in, resulting in many rhymes of high quality. Judging the entries eventually became difficult because in some years there would be more than 50,000 entries. This forced Burma Shave to hire some advertising copywriters to help in the selection process.

With the trend toward better automobiles and roads, the traffic accident rate began to climb. In response, the company created some slogans stressing traffic safety. In fact, some of the best Burma Shave rhymes were written with public service in mind:

PAST / SCHOOLHOUSES  
TAKE IT SLOW  
LET THE LITTLE / SHAVERS GROW  
BURMA-SHAVE

or

IS HE LONESOME / OR JUST BLIND  
THIS GUY WHO / DRIVES  
SO CLOSE BEHIND?  
BURMA-SHAVE.

Still other good examples include

MANY A FOREST / USED TO STAND  
WHERE A / LIGHTED MATCH  
GOT OUT OF HAND  
BURMA SHAVE

and

THE ONE WHO / DRIVES WHEN  
HE’S BEEN DRINKING  
DEPENDS ON YOU  
TO DO HIS THINKING  
BURMA SHAVE

There are some funny stories in the history of the Burma Shave Company.

In Los Angeles, free sample jars were handed out to men as they entered a wrestling match. However, when one of the wrestlers angered the crowd, some of them started to throw their jars into the ring. Fortunately (and probably miraculously) no one was hurt . . . a close shave for the company, so to speak.

A similar occurrence happened at Ebbets Field in New York. Tubes of Burma Shave were handed out to fans entering the game, but when the umpire made a call unfavorable to the Dodgers, he was pelted with the tubes. The game had to be interrupted until the groundskeepers could remove the tubes.

Another problem that arose was that the Burma Shave signs had a tendency to disappear near college towns. To remedy this, special bolts were used, so that a special tool was necessary to unbolt the signs, and the posts had crosspieces attached to the bottoms to act as anchors.

Another problem in rural areas was the tendency for hunters to use the signs for target practice. Some destruction was also caused by small animals that took to chewing on the signs. However, much more damage was attributed to horses that found them to be an ideal height for back scratching. A horse would maneuver itself beneath the bottom edge of a sign and then begin to scratch the itch. This would often result in a broken sign. This problem was solved when many of the signs were raised from nine feet to ten.

Still another problem occurred when the Burma Shave Company tried to mock the rising trend of coupon advertising with the following rhyme:

FREE OFFER! FREE OFFER!  
RIP A FENDER / OFF YOUR CAR  
MAIL IT IN FOR  
A HALF-POUND JAR  
BURMA-SHAVE

Fenders began to arrive in the mail and by express, and local people scavenged the Minnesota junkyards and

brought in fenders. Some fenders from toy cars also came in, and without exception, everyone who brought or sent in a fender received a free half-pound jar of Burma Shave. Of course, the publicity from the bumper offer was priceless and further helped to establish the company as part of America's roadside culture.

Perhaps the company went too far with the following rhyme spoofing science fiction and curiosity about outer space:

FREE - FREE / A TRIP / TO MARS  
FOR 900 / EMPTY JARS  
BURMA-SHAVE

The manager of a supermarket in Appleton, Wisconsin, took up the challenge and wrote to the company asking where he should send the 900 jars for his free trip. The company sent back the following reply: "If a trip to Mars you'd earn, remember, friend, there's no return."

In reply, the enterprising supermarket manager accepted. He turned the project into a fantastic promotion for Burma Shave that had children and adults swarming the supermarket. The promotion included no less than a rocket plane on display and little green men on the roof firing toy rocket gliders into the parking lot.

It was decided by the Burma Shave company to send the manager and his family to Mars. The real destination was to be Mars, Germany. (Even though it is spelled *Moers*, it is pronounced *Mars*.) Again, the publicity was enormous, especially when the manager showed up wearing a silvery space suit and a bubble on his head. The company, of course, provided him with extra jars of Burma Shave so that he could barter with the Martians.

Another reason the ad campaign was so successful is that the company would not put up any signs that offended anyone. Some of the signs showed a measure of humility:

ALTHO / WE'VE SOLD  
SIX MILLION OTHERS  
WE STILL CAN'T SELL  
THOSE COUGH DROP BROTHERS  
BURMA SHAVE

It is said that all good things must come to an end, and this was the case with Burma Shave. There were a number of factors that led to the decline of the product. After World War II, increasing costs and decreasing sales began to be felt by the company. People were travelling faster on the highways and times were changing. The signs just weren't working anymore, and the company started to advertise with other media.

The real end to the roadside rhymes came in 1963, when the company was sold to Phillip Morris to become an operating division of American Safety Razor Products. The decision was made to remove all the signs as soon as possible, especially since any remaining signs would mean that rent money would still be owed to farmers. The end of the signs was popular fodder for the news media, and many stories were written about the demise of this American institution. A set of signs was donated to the Smithsonian Institution to preserve this part of Americana. Below are a few more of the 600 rhymes that were used on roadways throughout the country.

WE'VE MADE / GRANDPA  
LOOK SO TRIM / THE LOCAL  
DRAFT BOARD'S AFTER HIM  
BURMA SHAVE

OUR FORTUNE / IS YOUR  
SHAVEN FACE / IT'S OUR BEST  
ADVERTISING SPACE  
BURMA SHAVE

PEDRO / WALKED  
BACK HOME, BY GOLLY  
HIS BRISTLY CHIN  
WAS HOT-TO-MOLLY  
BURMA SHAVE

WHEN THE STORK  
DELIVERS A BOY  
OUR WHOLE / DARN FACTORY  
JUMPS FOR JOY  
BURMA SHAVE

THE POOREST GUY  
IN THE HUMAN RACE  
CAN HAVE A  
MILLION DOLLAR FACE  
BURMA SHAVE

THIRTY DAYS / HATH SEPTEMBER  
APRIL / JUNE AND THE  
SPEED OFFENDER  
BURMA SHAVE

IF DAISIES / ARE YOUR  
FAVORITE FLOWER  
KEEP PUSHIN' UP THOSE  
MILES-PER-HOUR  
BURMA SHAVE

SUBSTITUTES  
CAN LET YOU DOWN  
QUICKER / THAN A  
STRAPLESS GOWN  
BURMA SHAVE

THE BIG BLUE TUBE'S  
JUST LIKE LOUISE  
YOU GET / A THRILL  
FROM EVERY SQUEEZE  
BURMA SHAVE

"NO, NO," / SHE SAID  
TO HER BRISTLY BEAU  
"I'D RATHER / EAT THE MISTLETOE"  
BURMA SHAVE

TRAIN APPROACHING  
WHISTLE SQUEALING  
PAUSE!  
AVOID THAT / RUNDOWN FEELING!  
BURMA SHAVE

UNLESS / YOUR FACE  
IS STINGER FREE  
YOU'D BETTER LET  
YOUR HONEY BE  
BURMA SHAVE

THIS CREAM / MAKES THE  
GARDENER'S DAUGHTER  
PLANT HER TU-LIPS  
WHERE SHE OUGHTER  
BURMA SHAVE

IF YOUR PEACH  
KEEPS OUT / OF REACH  
BETTER PRACTICE  
WHAT WE PREACH  
BURMA SHAVE

TO KISS / A MUG  
THAT'S LIKE A CACTUS  
TAKES MORE NERVE  
THAN IT DOES PRACTICE  
BURMA SHAVE Δ



# The Fuyugaki persimmon — it really is “food for the gods”

By Alice B. Yeager  
Photos by James O. Yeager

In our small orchard there is one tree bearing fruit that can only be described as *luscious*. This is the Fuyugaki variety of Japanese persimmons. The taste of a ripe Fuyugaki persimmon bears a faint resemblance to that of an American wild persimmon. Fuyugaki fruit has a flavor all its own—sweet and wonderful—something to be anticipated and enjoyed. The scientific name for the genus of these trees is *Diospyros*, meaning “food for the gods”—a very appropriate description.

Fuyugaki flesh has a good texture, and the fruit may be eaten before it's fully ripe without any puckering effect, as it is non-astringent. When ready for harvesting, the fruit will turn a dark red with a blue blush and be slightly soft to the touch. The interior is reddish-orange and holds its color well when cooked or frozen. Keep a napkin handy when eating a Fuyugaki persimmon, as the fruit is juicy—kind of like a ripe Elberta peach or a mango. The persimmons are large, often weighing a pound or more apiece.

The Fuyugaki tree is a medium height tree maturing to about 25 to 30 feet high. It is an excellent summer shade tree, as well as a fruit tree, and it is not necessary to plant more than one tree for pollination. Fuyugaki is self-pollinating, as are most Japanese persimmon trees.

The leaves are a little larger than those of the American native persimmons, but they have the same oblong shape, sharp-pointed with smooth margins. This is a deciduous tree, and with the coming of cold weather, the

leaves turn a vibrant orange-bronze color.

Trees bloom in mid-spring after leaves have appeared. The flowers are somewhat inconspicuous, being small, cream colored, four-lobed, and semi-bell-shaped. However, bees are drawn to them, making persimmon trees—both wild and tame—a boon to beekeepers.

Japanese varieties of persimmons do not have the wide climatic range of the common American persimmons, which cover a large range of territory from Connecticut to the Gulf states and as far west as Southeast Iowa and West Texas. The Japanese cultivars are mainly recommended for Zones 7 to 10.

In our part of Zone 8 (southwest Arkansas), we have had only one fruitless season. In 1987, due to a freak late-April freeze, fruit of all kinds was wiped out in a large portion of the South and Southwest. That freeze killed all of the tender foliage on our Fuyugaki tree, and although the tree did renew its leaves a month later, it produced no flowers.

Soil requirements for Japanese persimmon trees are about the same as for peach trees, and persimmon trees will thrive in ordinary soil. Rich soil or soil high in nitrogen causes these trees to produce more foliage than fruit. A well-drained sandy loam is ideal. The pH preference is 6.0 to 8.0. Trees should be planted about 20 feet apart, making them suitable for most home orchards. First fruits should be harvested in three to four years, depending on growing conditions.

Once established, Japanese persimmons don't seem to require a great deal of care, as they are relatively disease- and insect-free. As with all trees,

there will be an occasional dead limb or one that is weak and sagging toward the ground. These should be removed to promote good health and appearance.

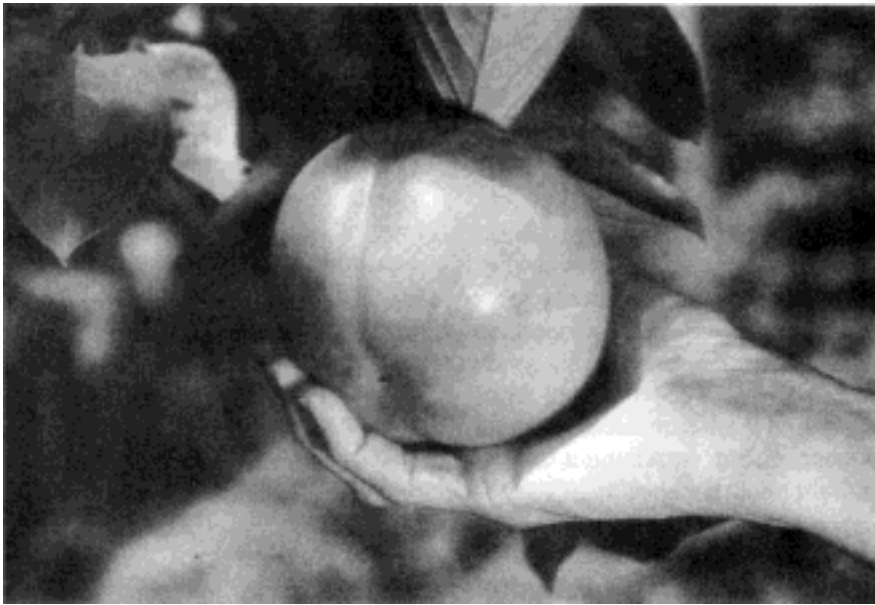
The only pest problem we have had with the Fuyugaki tree has come in the form of fall webworms. These one-inch-long caterpillars form weblike nests (similar to those of the Eastern tent caterpillar) on the ends of branches. If not brought quickly under control, these culprits will proceed to defoliate a goodly portion of the branches. We break their webs with a stick, puff some Sevin dust at them and that's usually the end of the caterpillars.

For some reason, we seldom see a bird-pecked fruit. Maybe the native birds haven't developed a taste for this foreign import.

Unless cross pollination occurs because of wild trees in the area, fruits will be almost seedless. Usually seeds are very small and useless as far as propagation is concerned. To secure a worthwhile tree, a gardener should purchase a grafted variety from a reputable nursery.

When ordering trees by mail, I always request that roots *not* be severely pruned. Some nurseries insist on following a practice of close root-cropping, but I have found from experience that trees with only a stub of a root are very slow to take hold and grow when planted and may even die. That's money down the drain, to say nothing of the time and effort involved. However, most reputable nurseries will replace plants if the gardener reports the problem within a reasonable length of time.

A good example of the negative side of severe root-pruning occurred when I ordered our Fuyugaki tree. The tree arrived with only a stub of a tap root and did not put out a leaf for an entire year. During the summer, I kept the soil moist and mulched. To be sure the tree was still alive, I checked from time to time, gently rubbing the trunk in a small area until I could see the



*The hand in this picture gives the scale: this fruit is big.*

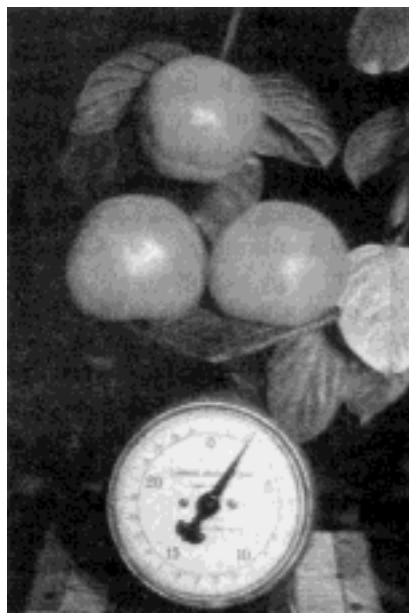
green life color just beneath the surface of the young skin-like bark. I was encouraged by the fact that the trunk felt cool to my hand—not dry and lifeless. The next year, leaves appeared and the tree slowly began to recover and grow. (In gardening circles this type of human behavior is known as *keeping the faith*.)

When planting a Japanese persimmon tree, remember to give it plenty of root space—*i.e.*, dig the hole somewhat larger than actually needed. Notice the soil line at the base of the trunk and plant accordingly. When placing the soil around the tree, fill the hole about halfway and then water generously. Put in the remainder of the soil and water again. This will remove any air pockets, and soil will settle in around the roots.

A young tree needs plenty of moisture to carry it through prolonged dry spells. Until it can develop a good root system, a small dam about 18 inches in diameter should be made around the tree so that water may be directed to developing roots. A thick mulch of organic matter—straw, grass clippings, etc.—is very beneficial during the summer. Not only does mulch shade the soil, but it keeps grass and

weeds from infringing on the tree's moisture supply.

Fuyugaki fruit is versatile. Besides being eaten fresh, it may also be used in other delectable ways, such as pies (see recipe), puddings, fruit salads, and so on. The persimmons may also be pureed and frozen for later use. (Discard skins before processing.) Japanese persimmons rank high in



*Two ripe Fuyugaki persimmons weigh in at a little over a pound apiece.*

Vitamin A and potassium, making them a very healthful fruit to eat fresh.

Food for the gods! What more can I say?

This nursery carries at least 17 varieties of Japanese persimmons, among them the Fuyugaki:

Chestnut Hill Nursery  
Route 1, Box 341  
Alachua, FL 32615

And here's the recipe I promised you:

### **Fuyugaki persimmon pie**

- 1 unbaked 9-inch pie shell
- $\frac{1}{2}$  cup sugar
- 2 tablespoons flour
- $\frac{1}{2}$  teaspoon ginger
- $\frac{1}{2}$  teaspoon nutmeg
- $1\frac{1}{2}$  cups pureed Fuyugaki pulp  
(Do not puree skins.)
- $\frac{1}{4}$  cup evaporated milk
- 1 egg, slightly beaten
- $\frac{1}{3}$  cup chopped pecans (optional)

Sift dry ingredients together and combine with persimmon pulp. Add milk and egg. Stir until smooth and pour into unbaked pie shell. Bake at 375° F for 45 to 50 minutes, or until knife inserted in center comes out clean. Optional: Pie may be taken from oven just before completely done, sprinkled with chopped pecans (or other nuts) and returned to oven to finish baking.  $\Delta$

If all mankind minus one  
were of one opinion, and only  
one person were of the con-  
trary opinion, mankind would  
be no more justified in silenc-  
ing that one person than he, if  
he had the power, would be  
justified in silencing mankind  
—John Stuart Mill  
1806-1873

## Ayoob on firearms

*By Massad Ayoob*

### **My choice for the ideal backwoods gun is the four-inch .44 Magnum handgun**

I've packed many a handgun from the backwoods to the plains to the desert and the bushveld, but as middle age and experience (the collected aggregate of our mistakes) come together for me, I'm down to one primary backwoods handgun. It's the Smith & Wesson .44 Magnum with four-inch barrel.

Yes, this handgun can kick—but hear me out. First, in the same sense that you can load a .357 Magnum revolver with light .38 Special ammo, you can load the .44 Magnum with mild .44 Special. The latter cartridges give you about the power of an old Army .45 automatic, and very mild recoil in the big Smith & Wesson revolver. It feels like you're shooting .38s.

You can load the gun with .44 Special Winchester Silvertip hollow-points and have an excellent home defense handgun. I've seen 10-year-old girls and arthritic older women fire this round from .44 Magnum S&Ws with no discomfort or fear. Will it be powerful enough? Col. Jeff Cooper, the master gunfighting instructor, has publicly recommended the .44 Special revolver as the ideal police service handgun. One of Cooper's contemporaries was Elden Carl, the famous combat master. Carl shot his way to fame with the Colt .45 automatic, but the revolver he actually carried on patrol as a deputy sheriff was a Smith & Wesson .44 Special with four-inch barrel.

When you've paid your shooting dues and have learned to tolerate more recoil, you can move up to the Magnum loads for hunting, long range

shooting, and protection from large animals. Ross Seyfried, former world champion combat shooter and professional big game hunter, carried a four-inch Model 29 .44 Magnum behind his right hip every day when he made his living as a cattleman. His big concern wasn't shooting a deer while out in the pasture; it was having to shoot a big steer if one went berserk.

A similar job description was in the mind of Seyfried's mentor Elmer Keith, the legendary gun expert who was almost single-handedly responsible for the development of the .44 Magnum by Smith & Wesson. As both a cowboy and a professional hunter, Keith had multiple occasions to shoot maddened horses, livestock, and in at least one case a game animal, off his body. A rifle was too long or too far from reach to bring to bear in these situations. Each time, the gun that saved Keith's life was a heavy caliber sixgun.

When the .44 Magnum came along, the Smith & Wesson factory presented Keith, the developer, with the very first one, a blue steel specimen with four-inch barrel. This or one identical was his carry gun virtually daily for the rest of his long, rich life.

Why the .44? First, it is very accurate at long range and retains its power there. In 1987 in the Eastern Transvaal in South Africa, I shot an impala with my 4" 629. The 320-grain SSK hunting bullet drilled completely through him and knocked him flat, at a range of 117 yards. Keith reported much bigger animals shot through and through at much greater ranges with his own .44 Magnum handloads.



*Massad Ayoob*

Handgun hunting experts feel that within a hundred yards, a .44 Magnum revolver puts about the killing power of a .30/30 rifle on your hip. The better ones will shoot four- to six-inch groups or tighter at that distance, which is better than most experienced hunters can do with an open-sighted .30/30 rifle at the same distance.

Second, if you run a risk of being threatened by large, dangerous animals—the livestock-turned-bad that Keith and Seyfried had to deal with, or bears, or big feral dogs—the .44 Magnum gives you the punch you'll need to stop a sudden, close threat before you or yours get mangled.

The four-inch barrel gives daily portability when holstered on a sturdy belt, and the holstered revolver is short enough that it doesn't get in the way on horseback or when sitting in a vehicle. The shorter barrel also allows for a quicker draw in an emergency.

Numerous single action revolvers are made in this caliber, but they're slow to load or reload in an emergency (punch out the empties one at a time, reload the fresh cartridges one at



a time), and the hammer has to be thumb-cocked before each shot. The swing-out cylinder of the Smith & Wesson lets you load two rounds at a time—or all six with a speedloader—and you punch all the empties out at once with a single stroke of the ejector rod. The double action design lets you rip off six shots as fast as you can pull the trigger in a short-range emergency, without having to cock your Smith & Wesson.

There are other emergencies the gun can handle. A friend who's a farmer had a hand badly mangled in a machine accident. To this day he's convinced that if he had been carrying one of his .41 or .44 Magnums, he could have hammered six shots into the motor of the device and "killed the machine" before it maimed him for life. Unfortunately, he didn't have it on. Today, one of the big S&W Magnums is constantly on his hip as he goes about his farm duties.

There are other double action revolvers that take the big Magnum cartridge, the Ruger and the recently discontinued Dan Wesson, but they're both larger, bulkier guns than the S&W. I've found the Model 29 (blue or nickel finish) and Model 629 (stainless) to be the lightest and most compact when fitted with four-inch barrel.

I now switch off between two S&W .44s for backwoods use. Both are the stainless 629 format. One is standard out of the box, and particularly accurate; it delivered that 117 yard shot for me in

Africa and is my preference during hunting season.

The rest of the time, the version I use is S&W's Mountain Gun, now back in production. It's the lightest of the big Magnum revolvers, with its four-inch barrel gracefully tapered, the edges of its cylinder radiused, and the grip frame rounded off to a .38-size round butt configuration. Recoil isn't that bad once you're used to it, and it's very comfortable to carry. I normally wear it discreetly concealed in an ARG (Ayoob Rear Guard) inside-the-waistband holster from Mitchell Rosen. The reasons for this, and the "etiquette" of carrying handguns in backwoods environments, are things we'll discuss in more depth in this space before too long.

For me, I can't think of a better back-trail companion. The versatile ammunition options in the full range of .44 Special through the most potent .44 Magnum rounds give you a single gun that can cover any emergency,

from a rampaging grizzly bear to trespassers who think *Deliverance* was a training film and have their eye on the lady of the house. Δ

### A BHM Writer's Profile:

#### Dave Duffy



Dave Duffy is the founder, publisher, and editor of *Backwoods Home Magazine*. He built his own home in a remote area of the Siskiyou Mountains of southern Oregon while launching the magazine, and that served as BHM's first office. Since the home was 10 miles from the nearest electric utility pole, Duffy installed a photovoltaic system to produce sun-generated electricity to run the computers and printers to publish the magazine.

Born in Boston, Duffy spent his first 29 years there, where he worked as a journalist for several daily newspapers. He then moved to Nevada and California, working as a journalist for newspapers and later as a writer and editor for the Department of Defense.

Unhappy with working for others and living near cities, he spent several years of vacations and long weekends building his hideaway in southern Oregon. He eventually fled the rat race for the woods. In 1989, he started *Backwoods Home Magazine* to help others do the same.

### A BHM Writer's Profile: Annie Duffy

Annie Duffy, age 17, grew up with *Backwoods Home Magazine*. As publisher Dave Duffy's daughter, she began working with the magazine at age 6 by helping to stuff envelopes for mailings to potential subscribers.

At age 7 she wrote her first small article for the magazine, and at age 13 originated the magazine's "Where I live" column for teenage readers.

Since then she has worked in every aspect of the magazine, including writing and editing articles, working in the mailroom, tending the magazine's booth at the many trade shows we do around the country, and setting articles in the desktop publishing program used for final copy.

Now 17 and a high school senior, her main interests are singing (she takes voice lessons and is a member of her high school choir), dancing (she takes an after school swing dance class), writing, and computers.



# Homesteading on the electronic frontier

By Martin Waterman

## Find information fast on the Internet

This is just a personal observation, but I've noticed that many of my rural-based friends tend to favor using the Internet *news groups* while friends from the city favor the *World Wide Web*. Perhaps this gives credence to the idea that country folk are more friendly than city folk, since participating in a news group is more like going over to your neighbor's and chatting over coffee,



while the Web tends to be more commercial and impersonal...more like getting coffee at the drive-thru at a fast food restaurant.

## Using the Internet

On the other hand, perhaps this country preference for news groups comes about because of the new learning challenges making the change to backwoods living presents. Many people who make the change have to start from scratch as they learn about producing their own food, power, buildings, and the other things they need. This requires a lot of information, much of which is not readily available. Even those who have been living

the rural lifestyle are continually seeking information, as they consider new technology (as well as valuable older technology) for various projects.

Fortunately, the Information Highway can provide ample amounts of information in a short amount of time. In the majority of instances, this is a cost-effective and efficient way to receive information, since it only takes a few moments to post your questions on the appropriate news group, and then you can get on with your affairs. When you check your e-mail or news group postings later, you will probably be surprised at the wide range of responses, as well as the areas from which they came.

## Independent energy

Like most people, when I need answers to my questions, I don't want to have to wait weeks for a catalog, or run up my long distance phone bill, or spend time hunting at the library. I want the answer *now*. Recently, I've been assembling information on independent energy and have found the Internet to be most obliging.

One news group which I find particularly useful is **alt.energy.renewable**. Topics usually include the latest technology and uses of wind- and solar-generated power. There is always information on other aspects of producing your own energy as well, and recently there was a fascinating discussion on how to build a wind generator from oil drums for either pumping water or charging batteries. Another very important topic that is discussed in this news group is where to go on the Internet for related information or to find suppliers. That

makes it a good starting point to find information about renewable energy resources or to supplement your knowledge.

The best thing about the site is that people post messages to give reports or to ask questions about their alternative energy experiences, installations, and plans. You can often learn more from reading about other people's personal experiences than you can from studying other types of technical media.

## Using the Web

You can also find a great deal of useful information on the World Wide Web. Using *Webcrawler*, a popular and easy-to-use Internet *search engine* on the Web, I entered the words "alternative energy" and clicked on the Search button. It instantly returned a list of 662 Internet sites.

The first one I visited was the Alternative Energy Equipment Exchange, a very useful site located at <http://www.wetlabs.com/aeex/sintro.html>. AEEX has a free service in the form of *alternative energy classifieds*. You can post equipment you have for sale or look for equipment that you may require. AEEX provides classifications for solar energy (photovoltaics, solar hot water, solar cooking, solar heating, etc.), wind power (wind generators), storage batteries (lead-acid, nickel-iron, nickel cadmium, alkaline, fuel cells, etc.), hydro-electric power (water power), and other independent energy resources. All ads remain on the system for one month, and you can repost as often as you like.

I found another interesting independent-energy-related Web site at Solstice: Sustainable Energy and Development Online. It's located at <http://solstice.crest.org/index.html>.

Solstice bills itself as “the site for energy efficiency, renewable energy, and sustainable technology information and connections.” Solstice is sponsored by the Center for Renewable Energy and Sustainable Technology in Washington, DC, and in addition to being a site with lots of information, there are also links to other related sites on the Web.

(Editor’s note: the Net Links page of our *BHM* Web site will take you to the energy-related Internet addresses mentioned here, among others. Our Web address appears at the end of this article.)

## Your own news group

You can’t please everyone, so inevitably there will be those who have a need for a news group that is not already available. In some cases, there may be a demand for just the type of news group you’re looking for. Let’s say you want to start a news group called **rec.icefishing**. The first thing to find out is if the group already exists in one form or another, or if a similar group such as a fishing news group has a constituency of frost-loving fisherfolk. If the proposed group is of local interest, without wide appeal, your next line of action is to see if your local provider wants to set up a local group for you and your ice-fishing friends.

If you want your news group to be distributed on a world-wide basis, things get a little more complex. There is a formal procedure which usually includes voting by a panel. If you want information about how to start your own news group, you can get it by going to the news group called **news.announce.newusers**. You will find an article posted there called “How to create a new USENET news group.” This is a very good news group to visit, because it has many documents for beginners that tell about the “netiquette” of posting messages and replying to postings, as well as general information about USENET News.

## Web weather

Everyone seems to be spending more and more time on the World Wide Web. My *Web browser*, *Netscape* (the program that allows me to see the Web), also allows me to *Bookmark* my favorite sites. This is important, since many Web sites have inconveniently long addresses, and often, if you find a site you like, you may not be able to find it again. I have about 50 sites Bookmarked. I just click on “Bookmark” on the Menu Bar, and the Bookmark Menu opens, displaying the list of sites I’ve marked. Then I click on the Web site I want to go to on the list. This also saves online charges, and you don’t have to remember layers of linked sites or how you cyber-surfed to the site the last time.

The Web site that I frequent the most is the weather site for my area. I find that it is very accurate, since it is updated three times a day. It is the same information that our goofy weatherman receives, and I like the idea that I don’t have to synchronize my day so that I can turn on the idiot box to catch his routine, just to find out if we will have frost or rain. In addition, I only need the particulars for my area, and most weathermen focus on city weather, where most of the population resides; they don’t pay much attention to the rural areas. At one time, one of the most popular sites on the Internet was the satellite weather maps, because they look so cool. However, they are really not much use to the average person.

You can easily find a weather site for your area by doing a search using the *keyword* “weather.” I like the convenience of being able to get the weather when I need it. For the last few years, I’ve planted my crops using the rain and frost forecasts given on the Internet. I have found that they are very accurate. We have a short growing season here, so being able to get my crops planted as early as possible without risk makes a big difference in

how much I will harvest throughout the season.

## E-mail from hell

I am often asked about the Internet, and people say to me things like, “You must love computers.” If fact, I hate the bloody things. I would rather be outside on a sunny day tearing up the field with a plow, planting, or being with friends and family. I look at computers and the Internet as tools that enhance my rural existence and allow me to make a living, just like a tractor does. But no one comes up to me and says, “You sure must love your tractor.”

What does this have to do with e-mail? I’ll tell you. Electronic mail has saved me a bundle on postage, and it’s faster than the conventional “snail mail.” However, I recently had an experience which reminded me how frustrating computers and the new information technology can be.

I had always thought of e-mail as an uneventful way to send and receive messages, until I experienced what can best be described as The E-Mail from hell. It all started innocently enough. An editor wanted to borrow a piece of software so that he could take some screen shots of it for a review I had done. I had done a lot of customizing on this software, including many add-on components. I used Norton Desktop to compress the file, but it was still over five megabytes in size. I sent the file as an *attachment* to an e-mail message. As sometimes happens, I got knocked off the Internet. I have never tracked down the reason for this, but it seems to occur most often during high-traffic times. This was Sunday evening, and it took me three tries to send my e-mail.

A few hours later, I logged on to check my e-mail and found that the address I sent it to was incorrect, so the *Mailer Daemon* wanted to send the file back to me. (That’s its real name; it’s a program that bounces



back messages that have technical problems.) There was nothing I could do. I kept trying to receive the file, but I kept getting knocked off the Internet before the half hour needed for transferring the file was up. I knew that if I did not accept this e-mail, I would not get any of my other e-mail that was backing up behind it.

Finally, I called my provider and he hunted down that e-mail message in the bowels of their computer server and unceremoniously killed it on my behalf. I would have loved to see it die. This simple exercise had ended up costing me several hours, with about three hours of wasted on-line charges. This story has two morals: (1) electronic communication is not a perfect science, and (2) if you are e-mailing

large files, make sure you have the right address.

The Internet is really changing social structures, and many people are meeting who normally would never come in contact with each other. Recently I visited a friend who'd met her current boyfriend on the Internet. I asked her if it was serious, and she nodded and said, "I'll say, we're even sharing a hard drive."

(Questions, comments, and information of interest to *Backwoods Home* readers can be sent via the Internet to Martin Waterman at

### A BHM Writer's Profile: Maurcia DeLean Houck

Maurcia DeLean Houck is a nationally known author with more than 1,500 credits in a variety of national magazines and newspapers. She is a 1999 inductee in the *Marquis Who's Who in the East* and is an active member of the National Writer's Association. Maurcia is a contributor to two books, *Family Travel Guides* (Carousel Press, 1995) and *The Grandparent's Answer Book* (Chariot-Victor, 1999). Her first solo book project, *If These Walls Could Talk*, is scheduled for release later this year by Picton Press.

waterman@nbnet.nb.ca, or to other editors of *Backwoods Home Magazine* at backwood@snowcrest.net. BHM's Internet address on the World Wide Web is <http://www.snowcrest.net/backwood/index.html>.) Δ

## E-mail from readers

It caught us a bit off guard: we never anticipated that our Electronic Frontier column would draw so many responses so fast. So far, most of the responses are concerned with getting connected with the Internet and finding information on it. Here are a few examples.

Andrew G., from New Brunswick, Canada, wanted to know what resources were available to those who were interested in a "backwoods home" type of lifestyle. I told him that the *Backwoods Home* Web Page (<http://www.snowcrest.net/backwood/index.html>) would be continually adding links to sites that would be useful to those contemplating the move, or those already enjoying the lifestyle. This column will also offer useful sites. Upcoming topics include homeschooling and doing business on the Web.

Heidi M. wrote, "A little over a year ago, my husband, our dog and I

moved from Los Angeles to the Rocky Mountains. Our goal is a ranch, upon which we can be self sufficient." Heidi works from home for a California-based computer training and consulting company, but like many people, she has found being online intimidating. One of her questions was how to get on the Internet.

The first—and one of the best—sources of information is the nearest computer store. Someone there will know who the Internet providers are for your area. However, some computer shops become agents for some of the providers, so shop around and make sure you're getting the best possible prices and services.

One of the hottest e-mail topics was finding connectivity at a reasonable price in rural areas. Many of the messages came from people who already had access to the Internet via America Online and Compuserve but

found the access to be expensive and complicated. John D., from Arizona, was frustrated because he uses Compuserve, and although he uses an 800 number, it is not toll free.

If you are already on the Internet, check out the Web site <http://www.tagsys.com:80/Providers/>. You can also ask people and businesses in your town that have Web sites, since they probably have arrangements with providers that are close at hand.

The business of being an Internet provider is growing by leaps and bounds, and although most of the growth has taken place in the cities, it is spreading fast to rural areas. Only recently did *Backwoods Home Magazine* find an Internet provider with a toll free dial-up near them, but you probably don't live as remote as they do.

Around the corner is wireless and cable technology, which I will write about in future columns. Δ

## When it comes to land contracts — be careful! Here are some critical points to consider.

By Harry Styron

**Y**ou've finally found your country dream place. The seller has treated you with great courtesy. What's more, he'll finance your purchase with a land contract.

No need to deal with the endless fees, requirements, and delays of lenders. Even if you qualify for a loan, the broken-down farmhouse won't meet most lenders' guidelines. And the bank or mortgage company has absolutely no interest in financing the unconventional house you're dying to build.

The land contract, or *contract for deed*, seems to be just what you need. The real estate broker tells you that it is the customary device in the area for owner-financing. Just put 15% down, move in and start making payments.

### But did you ask these questions?

1. What happens if the seller gets Alzheimer's disease or a divorce or dies or goes bankrupt?
2. What happens if you pay on the property for nine years on a ten-year contract, then are disabled and cannot continue? Do you have any equity? If so, do you have to file a lawsuit to get it?
3. If a highway comes through and takes part of the property, who gets the condemnation money? If a neighbor files a re-zoning application, who gets notified? Do you have any right to protest?
4. Is there another way to do the deal with owner-financing?

If you asked these questions and obtained clear answers, you may be having serious doubts as to whether you want to buy land on contract. The

truth is that courts look on such contracts with disfavor because of all the grief they cause for sellers and buyers. The statutes and case law regarding such contracts vary from state to state. Even within a state, it may be impossible for a lawyer to give a clear answer to one or more of these questions, because the law on that point is unsettled.

### What happens when the seller's capacity changes?

A land contract looks much like a contract to purchase real estate with a long-delayed closing. So you sign it, make a down payment, and begin making payments. Now who owns the property?

Ownership has suddenly become complicated. In the best possible arrangement for a land contract, the seller signs a deed to the property in your favor when you make the down payment and sign the contract. The deed is held by a reputable escrow company whose job is to collect your payments and to record the deed when you have made all the required payments. At this point, the seller has legal title to the property and *record title* (your name doesn't show up in the county land records), and you possibly have equitable title, or a right of unknown extent that it would be unfair to deprive you of.

Suppose the seller, two years later, becomes mentally incapacitated due to disease, injury, or age, and suppose he has never signed the deed and placed it in escrow. He is put in a nursing home, and Medicaid picks up part of the tab for his care, thereby obtaining the right to reimbursement from his assets. He dies. Medicaid searches the land records and finds that he owns the property where you live. Medicaid

wants to sell the property at auction. You find that your payments have been cashed by the seller's son. Maybe you can get it all straightened out, but it costs you \$15,000 in legal fees and months or years of anxiety.

Maybe you make ten years' worth of payments on the ten-year contract, then find out the seller doesn't remember who you are. His son (or somebody) was cashing your checks. You want your deed, but the record owner of the land can no longer write or tell anyone what your deal was. The son wants the land for himself.

Suppose the seller's son or spouse claims that the seller was not legally competent at the time you signed the contract. Though it was not apparent to you at the time, because you didn't know the seller personally or the true value of property in the area, he truly had been slipping and sold the property to you well below market value. The real estate broker collected a commission out of the down payment and is now difficult to locate. The court agrees with the seller's family and orders them to return your money and a little more and rescinds the purchase. You have no title insurance, so you get a nice bill from a nice lawyer.

Maybe the seller has all his marbles, but gets into financial trouble elsewhere. He is forced to file for liquidation in bankruptcy court. The bankruptcy trustee doesn't like your land contract and begins legal wrangling to get you out so he can liquidate the seller's interest in the property to get money to pay the seller's creditors. Maybe you "win" in court, after a drawn-out, expensive battle.

The seller gets a divorce. The divorce decree fails to mention the property. You need the ex-wife's signature on the deed to get good title, if only so you can sell the property. You

can't find her. Or you find her and she wants to know what's in it for her. Or you learn that she's disabled or dead.

I once encountered a situation in which both selling spouses had signed the deed, but there was a mistake in it. Meanwhile the wife had died, so obtaining a corrected deed was impossible without opening a probate court case and having a personal representative appointed for the sole purpose of signing the corrected deed.

### **Where's the equity?**

You've paid 173 of the 180 payments, but you can't continue. Using an ordinary amortization schedule, you would have paid off 95% of the principal. You miss a couple of payments and get an eviction notice. Where's your equity?

The answer is very much dependent on the state the land is in. For example, land contracts caused so much trouble in Oklahoma that the legislature determined that they were the equivalent of a deed, note, and mortgage, giving the buyer-borrower the same right to his equity as though he had financed the property with a note and mortgage. The buyer-borrower would get to prove his equity in court.

In Missouri, however, some judges say that the buyer-borrower forfeits all equity if he misses even the last payment, if that's what the contract says, and it usually does.

This is one of the reasons sellers who provide financing do so with land contracts. They can get a higher than market price and interest, and if the buyer cannot keep it up, the seller gets to keep the down payment and equity. Often this type of seller will never sign a deed, much less put one in escrow; the defaulting buyer finds out that he has no easily-realized rights and simply disappears. The seller can then do the same transaction again.

The seller may have another motive. He may not have clear title to the land, and he knows that on a land contract the eager buyer is less likely to obtain



a title search. He may be attempting to evade the effect of a "due-on-sale" clause in an existing mortgage on the property, which would require him to pay off the existing mortgage when he sells the property. If you buy the property and the seller defaults on his first mortgage, you must immediately pay off the seller's mortgage to avoid losing the property.

### **Who gets the condemnation money?**

What does the contract say? If it says anything, it will say that the seller gets it. That's because people with both money and brains don't buy property under such contracts. It may say nothing about condemnation or fire insurance proceeds or such matters: the seller feels secure because the property remains in his name at the courthouse and the poor schmoe who bought it won't have the money to assert his rights.

Unless the land contract is recorded in the land records at the courthouse, or a memorandum of the land contract is recorded, the highway department won't have any reason to notify the buyer of the condemnation. The seller may sell some of the buyer's land to the state without the buyer knowing about it. If the buyer finds out, he is faced with suing both the seller and the state.

If the buyer's name doesn't show up in the county land records, the buyer won't receive notice of nearby re-zoning applications. If the buyer tries to protest, he may have to overcome the hurdle of proving his interest before his protest will be heard.

Another problem is property taxes. The contract probably obligates the buyer to pay them, but the owner receives the tax bill (as well as reassessment notices). The buyer forgets about the obligation. The owner doesn't pay the taxes. The property is sold at tax sale without the buyer being aware. The buyer finds out, but has an uphill battle to prove his redemption rights.

### **Is there another way to do owner-financing?**

Of course. Many owner-financings are accomplished in the conventional manner. The owner-seller conveys the property to the buyer-borrower by *warranty deed*. The buyer obtains an *owner's policy of title insurance*. The buyer signs a *note* and *mortgage* (called a *deed of trust* in some states) in favor of the owner-seller. Some sellers don't want to do it this way because they never have; the way they've done it has worked real well for them each time they sold the property and then took it back and sold it again.



*Installment sale agreements and leases with options to purchase* are common ways to document transactions in which title stays with the seller and the agreements clearly specify the requirements for conveying the property to the buyer. These agreements should also clearly establish the buyer's equity in the property as payments are made, as well as specify who is obligated to pay taxes and insurance and who is entitled to insurance and condemnation proceeds. From the buyer's point of view, it's advisable for the buyer and seller to sign a *memorandum of the contract*, if the contract is not to be recorded, which states that the buyer has an interest in the land and is entitled to notice of legal proceedings affecting the land. This memorandum should contain a *legal description* of the real estate and the buyer's mailing address,

### A BHM Writer's Profile: Anita Evangelista

In 1985, Anita Evangelista moved to a farm in the Missouri Ozark Mountains from a house



not far from downtown Los Angeles, and has been there ever since. Over the years she, her husband Nick, and their two children, Jamie and Justin, have raised everything from sheep to rabbits. Anita has written for a variety of magazines, everything from *The Twilight Zone* to *The Los Angeles Times* to *Fate* to (of course) *Backwoods Home*. She has also written six books, including the best-selling *How to Develop a Low-Cost Family Food System*, *How to Live Without Electricity—And Like It*, and *Backyard Meat Production*. Much of her writing is based on personal experience. She is also a registered nurse and a licensed EMT. Anita is listed in *Who's Who in the Midwest*, *Who's Who Among American Women*, and *Who's Who in America*.

and it should be recorded in the county land records.

If a land contract or contract for deed is the only and last resort, make sure that the seller places a deed to the property in escrow, with all necessary signatures and notary acknowledgments, along with instructions for the escrow agent to record the deed upon your satisfying the terms of the contract.

Be sure to get competent legal advice before signing checks or con-

tracts. Office supply forms are usually biased heavily in favor of the seller and are often very difficult to interpret. Real estate brokers are generally fountains of legal misinformation. If you don't get informed answers to the questions posed in this article, ask someone else. Law and custom vary so much from place to place that the experience and knowledge you gained in one place may only mislead you in another place. Δ

### A BHM Writer's Profile: Don Fallick

Don Fallick has been writing for *Backwoods Home Magazine* since issue number eight, but he's been reading *BHM* since the first year. He built his own home on his first homestead in western Colorado in 1976. Since then, Fallick has lived in Wisconsin, Washington State, and Utah. His homesteading activities have included owner-built construction, homeschooling, independent energy, horse-power, harvesting wild foods and game, home-based business, cooking, and "raising everything but his standard of living."



Fallick and his bride Barbara have 10 children between them. All have been homeschooled. When he is not writing for *BHM*, Don works as a surveyor and substitute school teacher. At one time or another, he has also been a carpenter, nurse aide, factory worker, locksmith, editor, and commercial pilot. He has a wide range of interests, and says that he tries to do "everything that interests him." Current projects include a lengthy "how to" book, three books of guitar music, and two children's stories.

### A BHM Writer's Profile: Rev. J.D. Hooker

Rev. J.D. Hooker is a longtime contributor to *BHM* and one of our most prolific writers. He draws on his backwoods experiences of gardening, building, fishing, hunting, and making an independent living. Home for him is back off a gravel road in rural Dekalb County, Indiana, along with his wife of 26 years. They have four daughters, one granddaughter, and two grandsons. On their small acreage they raise burros, and wolf/German shepherd hybrids—a unique and highly competent type of working dog. Rev. Hooker also serves as the voluntary head of a Baptist Youth Ministry in the area.

"I see so awfully many kids living in towns" Hooker says, "who've never had any concept of life away from the sidewalks and the crowds, that every day I'm even more convinced that living an enjoyable backwoods lifestyle really is the best possible way to raise a family. Fortunately for me, my wife has always agreed with that philosophy as well; which is why we now have decades of experience in independent living."



## Where I live

By Annie Duffy

### Salvaged wood makes a good goat shed

Last September I acquired three Nubian goats, a doe named Missy, and two kids named Tara and Peter, from my neighbor, Sue Tickle. I was planning to keep them with my horse, Buddy, and my donkey, Donna Quixote, but as hardy as the horse and donkey were, the goats needed shelter from the cold weather, wind, and the threat of cougar. So I decided to build them a goat shed.

For several evenings in a row I planned, after dinner, the specific characteristics that I wanted to build into the shed.

- It had to be big enough to house six goats (I have three more in Utah that will be coming here soon.).
- It needed a sturdy feeder since goats often like to jump right inside the feeder when they eat.
- A shelf inside would be nice, because goats like to sleep above the ground.
- It would need a tall fence of its own, inside the corral, because the goats are such good jumpers they would jump over the corral fence.
- It also needed ventilation, but not so much that it created a draft.

I finally came up with a 6 by 16 1/2-foot building design with a shed roof and windows on two sides.



Since I didn't have much money, I salvaged some long, wide boards my dad had laying around from previous building projects. Most of them were loaded with bent nails. While I pulled nails out, Dad ripped the wood down to size with his table saw. I only had enough scrap wood for a foundation, so when two by fours went on sale at a lumber store in town, we stocked up.

Although I helped my dad build our Oregon office, I still needed help in building the shed, so I volunteered my dad for the job. We finally built the shed inside our horse corral nearest to my bedroom window. We built the foundation on top of cinder blocks and homemade concrete piers. When Dad and I finished the foundation, my friend Rich Perrigo took over while my dad went off to install a septic tank for the house.

I built the shed out of two by fours and some old plywood siding my dad had laying around. The wall studs and roof joists were built two feet apart. I even used the siding for the floor, because my dad didn't have any regular flooring. Dad found some 1/2-inch plywood for the roof, and we bought some asphalt shingles to cover it.

I made several mistakes that I learned from:

- The shed size (6x16 1/2) is not sized correctly to nail on the standard 4-foot wide sheets of plywood easily, so Rich and I had to cut a lot of small pieces of plywood. I should have made the shed 8x16.
- The shed is only 6 feet deep, which made it difficult to build an 8-foot wall while it lay on its side on top of the foundation.
- I also nailed the siding of one of the walls on before it had been raised, which was a mistake



*Annie pulls nails out of salvaged lumber.*

because the wall became so heavy it was difficult for Rich and me to raise it. After that we waited until the wall was up to nail on the siding.

But the shed came out great anyway. While Rich and I were nailing shingles onto the roof, I kept my longeing whip with me, since my horse had already decided that the shed was for him.

When we finished the shingles, Rich cut pieces of 1x1 pine to trim the windows and door. On the inside of the windows, we stapled chicken wire to keep the goats in at night and to discourage predators from entering. On real cold nights we will nail plastic over the opening, and cut sheets of plywood to fit.

Right now, a few old lawn chairs are serving as shelves for the goats, and a couple of buckets serve as feeders, but in the spring we'll build some permanent furniture. The shed looks great, and the goats love it. Δ

## These are Jacob's sheep

*By Anita Evangelista*

A city-dwelling visitor to an Ozark "hobby" farm looks over the green, rolling hillside at the grazing flock of white commercial sheep.

"How pastoral," he says with a touch of wistfulness. (He has no idea of the labor that has gone into making that pretty picture a reality—the seeding of the field, the hay mowing, the sheep worming, the shearing and hoof trimming, the nights spent shivering in the cold, waiting for lambs to be born.)

"I wish I could be..." He stops and stares at the flock. "Is that a goat? Or what?"

"Or What" raises his black-and-white spotted head again, and the spectacular set of horns becomes visible, even at this distance.

"Wow!" the visitor says. "It's an antelope or something!"

"It's a Jacob sheep," the farmer says, trying to keep his voice level. "Jacob sheep."

The visitor looks hard at the four-horned spotted animal.

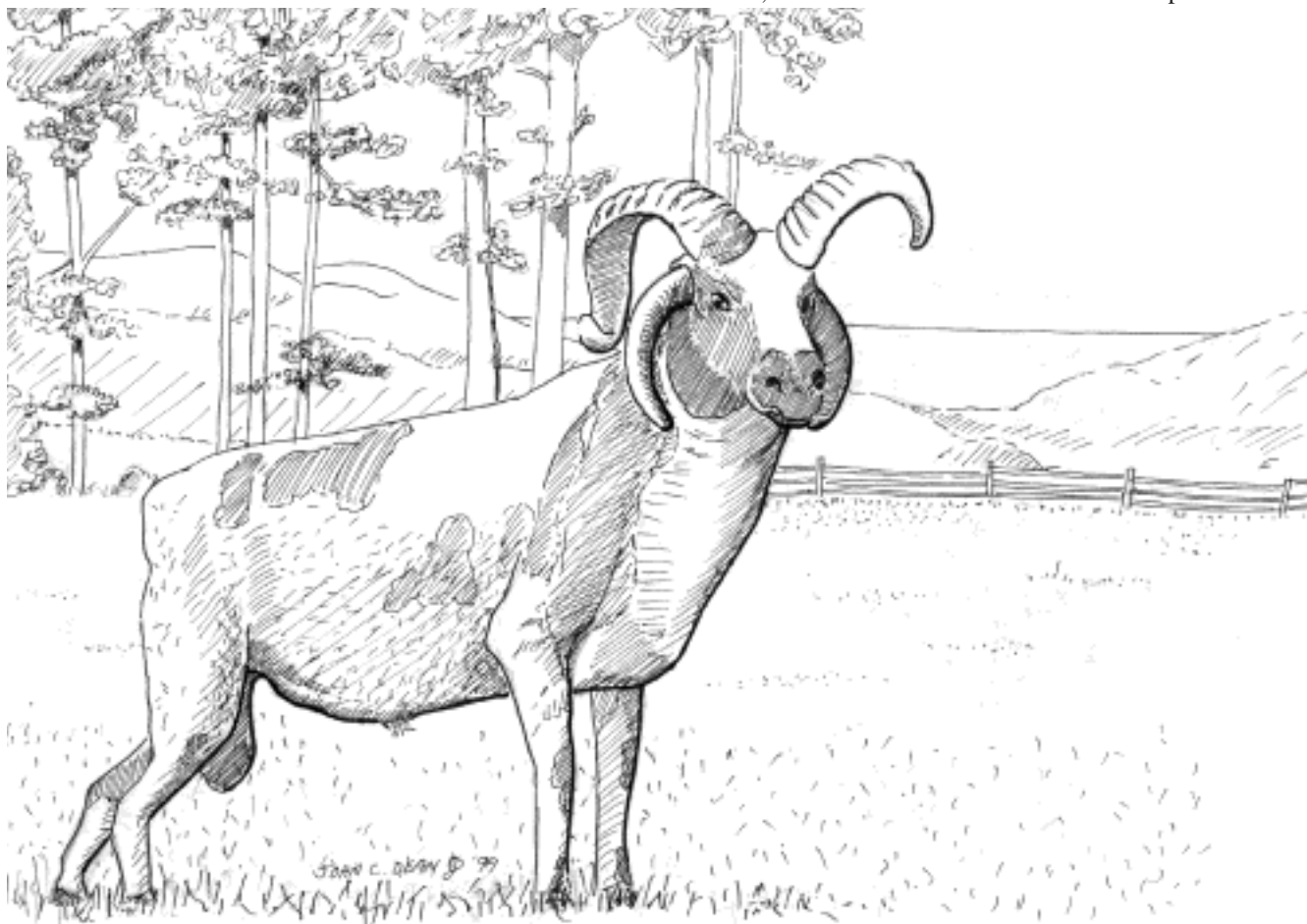
"Jacob who?"

Jakes have been known, at least as a unique color variation, since Biblical times. The story in Genesis tells how Jacob worked for his father-in-law and was allowed to take all the spotted animals from the solid-colored herd for his own use. In a dream, God told

Jacob that the use of spotted rams on those solid-colored ewes would produce spotted offspring and increase his flock—and the first recorded instance of genetic selection occurred.

While no one knows if today's Jacobs are descendants of this original line (there are spotted sheep with drooping ears and "fat tails" still living in the Middle East), the name of the first purposeful breeder of spotted sheep lives on in these animals.

Jacobs have been raised as estate sheep and "lawn mowers" in England for centuries. These sheep may be the result of cross-breeding British breeds with a spotted African sheep, or they may be a Spanish breed washed ashore during the wreck of the Spanish Armada. In 1970, there were so few Jakes remaining in England that a breed-preservation registry was formed. Recently, British breeders introduced Dorset sheep blood into a





number of their lines, resulting in a much larger, meatier animal than the original sheep.

## **North American Jakes**

In North America, Jakes vary significantly from their European cousins, probably from the introduction of domestic lines such as the Navaho-Churro. They've been known in this country at least since the turn of the century, with several importations from England and Scotland taking place in the interval.

As a four-horned (*multi-cerate*) sheep, Jacobs are dramatic examples of diversity among breeds and a living testimony to the vast genetic stores available to commercial breeders. The breed is unusual in that two-horned, no-horned (naturally polled), and even individuals with up to five or six horns may appear within bloodlines. Females (ewes) also are horned, though theirs are significantly smaller than ram's horns and are easier to break off during head butting contests.

Because the American breed has only in the past several years acquired a "breed standard" or "typical look," many lines of Jakes show considerable variation in spotting, head shape, body conformation, and even in ear size. (There are lines with ears so tiny that they appear to have no ears.) Some lines are tall and angular, some are short and tubby. It is not unusual for Jacobs to have crystal-blue eyes as well, although brown shades are more common.

The six-pound fleece of a typical Jacob ram is open and can be parted to reveal a medium-fine, lustrous, soft wool three to seven inches long. Unlike many other breeds of British origin, there is no heavy undercoat.

The spots are what set Jacobs apart in any flock. Basically a white-colored sheep with black (often surface-faded to brown) spots, the color of the fleece is a reflection of the animal's underlying skin color: pink under white wool, grey or black under dark wool. Pure

Jacobs also carry black eye or cheek patches, a dark nose or muzzle, and black knee spots, although there is considerable variation within lines on this, too. There is no wool on the animal's face or forehead, just hair; animals with wool before the horns probably are the product of a recent outcrossing to some commercial breed.

Just because a sheep carries four horns and has spots doesn't make it a Jacob. A number of other minor breeds have four horns, including the Navaho-Churro, and spots occur with a certain regularity in offspring of Dorset and Merino origins. Both sellers and buyers have traded all sorts of odd lots, including Barbados hair sheep crosses, as Jacobs.

The American Livestock Breeds Conservancy was instrumental in initial preservation efforts for this breed. As early as 1985, when a nationwide survey found that fewer than 5,000 Jacobs were born annually, Jakes were put on the ALBC's "Watch List." In 1988, a separate Jacob Sheep Breeder's Association grew out of the ALBC's efforts, and a specific breed description was established to help standardize the breed, and to provide guidelines for breeders and buyers.

Jacobs are a small to medium sheep, with rams weighing between 120 and 180 pounds, ewes slightly smaller at 80 to 120 pounds. Animals are fine-boned, long-framed, and smoothly muscled, with straight backs. Legs must be free of wool below the hocks and white in color, with or without black patches. Ears are small and erect.

On adult sheep, the white patches should be white—that is, without significant "freckling," and the black patches as dark and sun-resistant as possible. The wool shouldn't have "quilting," a difference in length between white and black fibers. The wool should be about 60% white and 40% black, with a fleece weight of around three to six pounds. The fleece is low in natural oils, lustrous, and has little or no hair and no *kemp* (thin,

wiry hairs). Occasionally, pure Jake lambs are completely white, including their horns (but this is not desirable).

Rams should carry two or four black or black/white horns growing clear of the face in a wide, sweeping curl, with flesh between the upper and lower set of horns. Although some lines produce offspring with "fused" horns, where two horns are growing together on one or both sides, this is not desirable. The ram's scrotal sack is short, with testicles held closer to the body than in modern breeds. Some rams have the large "Roman" or bulging nose typical of improved modern breeds, and are acceptable as such—but they are considered "less primitive" than rams with the more slender, triangular head of the earlier breed.

## **What you don't see**

What you don't see in Jacobs is their internal or innate qualities: the breed is hardy, thrifty, and produces a very lean meat. A typical lamb carcass, processed when the animal weighs between 60 and 80 pounds, can readily produce between 30 and 40 pounds of nearly fat-free meat, especially if the lamb was raised without grain supplements. The meat is generally a darker red, almost baby-beef-like, in comparison with paler commercial meats. In spite of its natural leanness, the meat is quite tender and delicious. It should be cooked at 325°F with moisture for best results.

Most Jacob ewes lamb successfully without much intervention, the result of the breed having remained fairly primitive through the years. (Commercial sheep producers may have to "pull" a third of their lambs.) Ewes produce sufficient milk for their single or twin lambs, but not so much milk that udder problems develop. Triplets are not common, with twins more usual with this breed. Lambs are often born with a hairy-looking coat to start with (depending on lines), or even a combination hairy-wooly coat. This grows out into ordinary wool before

long. Hairy lambs, in my flock at least, seem to take the early spring cold a little better than wooly ones—but all the Jake lambs are significantly hardier, quicker to get to their feet, faster to nurse, and more lively than lambs of commercial breeds.

An interesting thing about crossing spotted Jacobs with white commercial sheep is that the offspring will often be mostly-black woolled. A white “cap,” white heel patches, and white tail are often the only pale areas on the resulting animals—and that particular coloration is a sure indicator of a first-generation Jacob cross. If these crosses are then bred back to a spotted Jacob, a high percentage of these second-generation offspring will be spotted, too.

One animal geneticist has suggested that Jacobs are not actually a “white sheep with black spots,” but are a “black sheep with white marks.” Even though this seems to deny the evidence of our eyes, it appears to be a genetic truth. It’s perfectly apparent every time one of those mostly-black crosses arrives in the world. The same geneticist has opined that, since all-white Jacobs are fairly rare in a genetically black-wooled breed, folks should hang on to any all-white Jake lambs and try to produce all-white lines.

In terms of general health, the breed as a whole is remarkably vigorous and long-lived. It’s not uncommon to find productive Jacob ewes well into their teens, while most commercial sheep are washed up at eight years of age, and some more modern breeds are pooped out by the time they’re six. We recently suffered the loss of one of our oldest ewes, who was by all accounts over eighteen—and she’d produced a lamb last year!

There are, however, inheritable problems in these sheep, as there are in all breeds. Probably the most significant of these is “split eyelid deformity.” While there are variations of how extreme this condition becomes, it is

simply a division in the sheep’s upper eyelid. It may occur in one or both eyes. It appears to be the result of a stage in fetal development during which the lamb’s horns and skull are forming. Skulls of animals with the deformity show a division line running from the eyeball socket to the base of the horn. It’s seen more often in four-horned animals.

In the mildest cases, there is only a slight “bump” or “dip” in the edge of the lid. In the worst cases, the eyelid is divided clear to the animal’s “eyebrow” area. The sheep can experience irritation to its cornea or eyeball if the deformity causes eyelashes to rub on the eye—and with a severe split, the eyeball is exposed to dust, weed seeds, and other damaging irritants. The worst possible effect from split eyelid is blindness, which may take years to become evident.

It’s not quite known how this condition is passed on, since from year to year its incidence in lambs may vary. Some years, all the lambs in the flock will be free of the condition; other years half or more lambs may be varying affected. In extremely severe split eyelids, veterinarians can suture the division together—there’s no long-term damage to the lambs. It is probably wisest to not use animals for breeding that continuously or frequently produce lambs with split eyelids.

On the plus side, Jacobs appear to be fairly resistant to parasitic intestinal worms—they often require less de-worming than commercial sheep in the same flocks. They also have particularly sturdy hooves, so there is less susceptibility to “foot rot” and other hoof problems; very little hoof trimming needs to be done.

Most commercial sheep producers vaccinate their stock for numerous contagious sheep diseases, including vibriosis, clostridia, black leg, red water, tetanus, rabies, and so forth. Organic sheep raisers may or may not vaccinate as consistently. If a particular sheep disease is endemic in your

area (ask vets and local University Extension officers), I’d suggest vaccinating against it. As mostly-organic sheep raisers, in the past we’ve only vaccinated against overeating disease and tetanus (CD/T)—and infrequently at that. However, with the rise of antibiotic-resistance in many livestock and human diseases, we may make greater use of the preventive value of vaccinations in the future. Vaccinations can be mail ordered from vet suppliers, if you don’t mind giving shots yourself.

## **The fleece is unique**

That fancy Jacob fleece is, perhaps, what makes the breed most desirable for the small backyard flock—not only is the wool unique, it is also particularly easy to hand spin into yarn or felt into thick pads. Because it’s low in natural grease, the wool can be spun directly “off the sheep,” without initial washing, carding, or special handling. I’ve spun Jacob wool using a simple drop spindle and a regular spinning wheel, and it is a delight because of its natural lightness, springy body, and just enough oil to make it flexible.

While wool prices vary from year to year, Jacob fleeces are not that common and tend to command higher prices. I’ve seen clean “raw” or freshly-shorn Jacob wool sell for \$3 to \$8 per pound to handspinners—but that’s at private “niche-market” sales. Commercial wool co-ops, where most of the nation’s shepherds sell their white fleeces, discount colored wools and may only offer 10 to 15 cents per pound for your fancy Jacob fleece—so most Jake owners either use their wool at home or sell it to handspinners.

As a minor (or heirloom) breed, Jacobs also represent a genetic base which is significantly different from the majority of commercial breeds. Where commercial sheep must grow quickly to a marketable size—and consequently require grain and quality

hay inputs—the Jacob is slower-growing and can do quite well on pasture and occasional supplementation when fields are sparse. This thriftiness is one of the features of Jakes which endeared them to the hill shepherds of Scotland. It may also become an important trait for crossbreeding into commercial lines of sheep, if costs of grain and hay should increase in the future. Furthermore, the characteristic Jacob leanness could become very desirable if consumers demand lean lamb that is both juicy and tender. With agriculture changing constantly, the hardy Jake may hold an unsuspected answer in crossbreeding programs.

*Heterosis* is the term used to describe the result of crossbreeding two dissimilar lines or breeds, which produces offspring which are superior in specific traits to either parent. In heterosis, we often find such offspring to be both hardier and quicker to mature than either parent. This hybridization effect can produce the maximum heterosis when a two-breed crossbred animal is bred to a pure animal of another breed—and, to my knowledge, there are virtually no Jacob breeders engaged in this kind of experimentation. Would it be possible to produce a black fine-wooled sheep the size and meat quality of a 300-pound Suffolk, by crossing Jacobs to Suffolk-crosses? With time and careful selection, the resultant prolific, fancy-wooled animal could revitalize the small flocks on many “hobby” farms—but no one has yet undertaken this particular venture. There’s room for an incredible amount of crossbreeding experimentation with

Jacobs; it will probably fall to backwoods producers to do this work.

At a typical \$100 to \$350 for purebred Jakes, the cost of these animals is comparable with purebreds of other breeds. As a sheep with an unusual look, special fleece, and innate traits of remarkable hardiness and productivity, they are *not* comparable...they excel!

### For more information

American Livestock Breeds  
Conservancy  
PO Box 477

Pittsboro, NC 27312  
(919) 542-5704

Jacob Sheep Breeders Association  
Janine Fenton, Secretary  
6350 ECR 56  
Fort Collins, CO 80524  
(303) 484-3344

Jeffers Veterinary Supply  
PO Box 948  
West Plains, MO 65775  
1-800-JEFFERS (533-3377)  
24-hour Fax: (417) 256-1550  
Ask for a catalog. Δ

### A BHM Writer's Profile: Dynah Geissal

Dynah Geissal is 48-years old, is married, has three grown children, a son-in-law, and one grandchild. She and husband Bob have been subsistence farmers for 21 years and figure they are 90% food self-sufficient.

On August 1, 1994, they bought 40 acres of bare land in the mountains of western Montana. Since then they have lived in a tipi at 4600 feet while building shelters and pens for the livestock and beginning work on their home. They carry water from their hand-dug well and their only electricity is from a single solar panel, providing two lights and a radio.



### A BHM Writer's Profile: Connie Glasheen

Connie Glasheen is a wife, mother, and grandmother who loves to garden. A large orchard, vegetable and flower gardens keep her busy, along with tending to her sheep and cats. One of her goals is to become as self-sufficient as possible.



### A BHM Writer's Profile: Harry Nemec

Harry is the father of Chester and husband to Elizabeth Nemec. He is a self-reliant reconstruction engineer, farmer, fabrication & welder, volunteer firefighter, instructor, and poet. Nemec prides himself as an author who paints pictures with words and enjoys writing from actual experience.





# How I've started my child in a program of homeschooling

By John Silveira

(This is the first of many articles on homeschooling that will be written by the staff at *BHM*. In future articles we will discuss hands-on approaches to teaching reading, writing, and arithmetic along with science, history, geography, and everything else your child is expecting you to provide in the way of an education before you send them off into the world. — Editor.)

Homeschooling? I'd considered it for my daughter for years but I worked full time in an office for a defense contractor. With all the hours I spent either there or on travel, I didn't have the opportunity. So her birthdays passed like a progression of lemmings marching off a cliff, each one irrevocably lost, and the chance to ever homeschool her was slipping away.

Then, one day I was out of that job and I was working full time for *Backwoods Home Magazine*. This new job took me 700 miles away from home for several weeks each month. But the working conditions were different and after about a year I realized I could make time for homeschooling.

The decision to do so came at the end of the last school year. But with it came the realization that I didn't know quite how to start. I spoke with a lot of people. I listened to what was said, and the advice boiled down to a practical approach:

**Assess your child**

**Assess yourself**

**Have a plan**

## Assess your child

In assessing my daughter, I first wanted to find where her weaknesses lay. I met with her eighth grade teacher. She told me Mary's math skills were poor. This surprised me because, when she was very young, it

was her math skills that made me realize she wasn't retarded.

Nine years earlier, when she was entering kindergarten, Mary was diagnosed as having childhood schizophrenia with symptoms of autism and



several learning disorders. But over the years many people had been impressed with her math skills and her ability to calculate numbers in her head. Now I was being told she's not good with numbers. How could that be?

I discovered that every time she wanted to multiply numbers, she did the calculations from scratch. No one had ever bothered to have her memorize a multiplication table. I asked how she could reach the age of 15 and not know a standard multiplication table. I also asked where I had been while she wasn't learning it. This is a skill that should be committed to memory in childhood. Even as a mathematician, I never recalculated something so fundamental. I had all the basic stuff memorized.

This became the initial focus of my attack. I started out teaching her the multiplication table from 1 to 12. I wrote all the permutations of multipli-

cation of two integers, from 1 to 12, on index cards. There are 144 of them. And she's being tested on them. It's one of the things we go over on our long drive to Oregon and our return to Ojai. She has other weaknesses, from her penmanship to her reading comprehension. I've made it my business to know these things so we can work on them.

Next, I wanted to find what she's good at. I want to focus on her skills so I can encourage her. I also want to make use of them.

For example, I was surprised to find out she can write stories. She had been writing them one after another for several years—then she'd throw them away.

"I didn't know you wrote stories."

"Well, I like to write, Dad."

"Why do you throw them away?"

"You'd get bored with them after you'd read them 20 times, too, you know."

Her logic was at once both compelling and annoying. But I wanted to see her stories and gauge her progress.

"From now on," I announced. "Everything you write goes into your binder."

She still throws some away, but channeling this skill of hers makes it easier for me to help develop her language skills. It also makes an unusual

#### Using index cards

Index cards become a way for you to collect a lot of the factual data your child should know. They become a convenient way for him or her to review the information and an easy way to quiz them.

way for me to test her. For one thing, though most students hate essay questions, for Mary it's a natural way for me to quiz her.

So, for her first history quiz, she had to write me a story about a typical day of an indentured servant girl in Colonial America—and include all the detail from the readings I had given her.

### Assess yourself

I found that I had a mixed bag of skills and drawbacks—as any parent is going to have—when I started homeschooling. On the plus side, I used to be a math teacher. When I got my college education, I thought I was going to become a physicist, so I have a background in the hard sciences. This part of her education will be easy. How I teach her math and science will become part of future columns.

On the minus side, though I now write for a living, I'm a self-taught writer. Worse yet, I know little if anything about grammar and punctuation. And I'm a lousy speller. (Dave, the publisher, thinks it's funny that to teach my daughter punctuation I'm finally going to have to learn how to do it myself.)

I was also a terrible student and, though I write a great deal about history, there are incredible holes in my education. So, along with punctuation, I'm going to have to teach my daughter things I don't know.

In future columns, we will deal with strategies of how to teach subjects you don't know.

### Have a plan

I decided there are six areas of concentration this year:

1. I want Mary to develop her math skills. I want her to learn algebra.

2. I want her to read with comprehension.

I once read that literacy among white Americans 150 years ago was 98%—though most Americans didn't go beyond the sixth grade. (Blacks are excluded from this figure because they usually weren't even allowed to read in those days.) We think of time bringing progress and it would seem that in a century and a half the gap between 98% and 100% would have narrowed. Instead, it's widened. Literacy among high school graduates today is dismally low. Even a large percentage of college graduates have poor reading skills.

This is despite the fact that the way people get most of the information in their lives—even if they're sitting in front of a computer screen—is by reading.

#### Use No. 1 for index cards

There is a list of things you should know off the top of your head. One is the multiplication table through 12x12. Use them to quiz your child until he or she knows them cold.

So, if you can't think of a lesson today, make 'em read.

3. I want to expand her practical vocabulary skills. Not simply to add to her mental baggage a plethora of hyperpedalian polysyllabics, but to learn the precise use of words including the proper use of everyday words, such as when to use *well* instead of *good*, *may* instead of *can*, *ensure* instead of *insure*. When I was a boy, my mother hounded me with the differences between commonly used words. If your parents did this also, then it's time you started too.

I also want her to expand her everyday vocabulary. I give her two words a day. I don't pull them out of thin air. Any time she asks what a word means, it automatically becomes a word on her list. The first two words were *escalate* and *vocabulary*. Last

night's words were *interior* and *exterior*.

4. I want her to develop her writing skills. After 15 years working for Department of Defense contractors, I've discovered that most people cannot convey their thoughts clearly and concisely in writing. How are you, as a homeschooling parent, going to instill this in your child? You'll find that just as you don't have to be able to cook to know when something doesn't taste right, you don't have to be able to write to know when something doesn't read right. We are going to cover the *who*, *what*, *when*, *where*, *why* and *how* of writing.

5. I want her to have a feel for history and understand the significance of the impact of that history on our culture.

6. I want her to understand the concept that has done more to make the modern world "modern" than any other concept—the "scientific method." I want her to understand what science is, and what it is not.

Among the things that rankle me more than anything are statements people make about science that betray their ignorance. Among them is: "Science and religion are just alike; they are no more than sets of beliefs we choose to take on faith." Another is: "Science is just a bunch of statistics."

But the worst are the "alternative sciences" of various political and social movements that serve only to blind your child to an understanding of the real world. It's long been my plan to write a piece for *BHM* titled, *How we know what we know*. It's about what science is and what it is

#### Use No. 2 for index cards

Everyday, find two words your child doesn't know and put them on index cards. Do this seven days a week, 52 weeks a year, and you have 730 spelling and vocabulary words. In four years of high school, this is almost 3,000 words. See how your child does on the SATs then.

**Use No. 3 for index cards**

My daughter knew the capitals of about five states when I started homeschooling. We are now making 50 index cards with the name of each state on one side and its capital on the other. Later, the cards will be useful for adding more information about the individual states when we study them in detail.

not, the problems it can solve and the problems it can't. Mary will help me write it.

There's one more thing I plan to do. I plan to get Mary involved in my job. In the past we've had articles about how to involve your child in your job to further his or her homeschooling. Recently, we even had an article about using apprenticeships (Issue 31).

For my part, since I do research for my feature pieces, Mary's become part of the researching. She has to help look things up and tell me why they're relevant to my article. The little girl who had no idea how to use an encyclopedia was suddenly looking up the information on the Prohibition era.

The daughter of the *BHM* publisher, Annie Duffy, is being homeschooled and part of her homeschooling is to write a teen column for the magazine.

## Cultural literacy

Not included above, and one of the hardest things I'm going to face is making my daughter familiar with her culture—what's recently become known as cultural literacy. It used to go by the name of general knowledge, except it's not so general anymore.

I found this out while working for one defense contractor in the '80s. I had brought in a quiz from a magazine. The headline asked, "What do you know that your high school-aged children don't." It was simple questions from geography and world history and included such questions as: To the nearest half-century, when did the Civil War take place? Who was

Calvin Coolidge? On what continent is Kenya located?

"According to this article," I said to my fellow employees, "less than half of all high schoolers can answer more than half of these questions." I read the 20-odd questions.

One fellow, who had just received his degree in math, laughed and said, "I hate to say it, but I don't know the answers to most of those questions."

In turn, several others made the same admission. Many of them also had degrees. But what they all had in common was that they were young.

It was the older people in the group who could answer almost everything. Many of them weren't degreed, and one was a high school dropout. Yet, they generally knew the answers. How could this be?

The answer came quickly. The older people remembered learning these things in school. The younger people had never heard of them.

## Resources and tools

**Your local school system.** When I started this, the good news for me was that California has made provisions for homeschooling. The bad news is that the school district where we live gives no support to homeschoolers after the 8th grade. My daughter is entering the 9th.

Still, I've found ways to take advantage of the school system. They've told me what books they're using and two teachers even gave me copies of their syllabuses for the school year.

Homeschooling or not, I want to at least come close to tracking what they're doing in the public school I took her from. Something unforeseen may mean I have to put her back into the school system and I'd like her to at least be familiar with the material her fellow students are studying.

Also, even though I'm a mathematician, I'm not going to try to set up her entire math curriculum. Others have already put a great deal of time and effort into composing problems and

If your child learns nothing else, she should learn:

- (1) to read with comprehension
- (2) to write clearly and concisely
- (3) to be able to solve problems algebraically
- (4) what science is and is not
- (5) enough to be culturally literate
- (6) how to use a computer

the sequence of lessons, and some of them have done very well. I'm not going to try to reinvent those. Geometry, if we get to it, is such a subject.

**Computers.** Those awful machines we're so afraid of are here to stay. Maybe we, as adults, can ignore them. But our children can't. They're going to be part of the world they're growing into. Ignoring computers would be seriously shortchanging them because computers are going to be the tools of survival in the future.

There's another aspect of computers that make them useful. There's a tremendous amount of educational software out there and more and better software is being developed—typing programs, programs that test spelling and math skills, even games that require a certain knowledge of history to play.

The online services have educational interest groups where you can meet parents like yourself, and your children can meet other students.

Nowadays, you can even find the *Encyclopedia Britannica* on the Internet.

If you can afford a computer, buy one. If you can't, see if you can get your kid access to one at the local library, at a friendly local school, or even through a friend.

In another week Mary and I will drive south for home. Maybe you'll see us go by. I'll be steering. She'll be going through her index cards.

Next issue, I'll show you how to teach your child a fundamental concept in algebra—what an equation really is, and how to use equations to solve problems.  $\Delta$



## Think of it this way...

*By John Silveira*

### Just how good of a bet are those lotto tickets?

I looked at the newspaper and tried to match up the lotto results printed there with my picks. I sighed. “Boy, I sure would’ve liked to have won that one.”

O.E. MacDougal, the poker player, was on the other side of the office disassembling his shotgun to put a plug in. We were going duck hunting in the morning. “Ever buy any of these lottery tickets?” I asked him. “The pot last night was worth about \$20 million.”

He looked across the office and I held up my ticket so he could see it.

“Is that one of those California Lotto tickets?” he asked.

“Yeah. Ever buy them?”

He smiled. “Every once in a great while.” He went back to disassembling his shotgun.

“Do you think they’re a good bet?”

He looked up again. “No.”

“Then why do you buy them?”

“I don’t buy them often, but when the jackpot’s way up there, even I get suckered in.”

“Suckered in? Why, aren’t they such a good deal?”

“Well, in the first place, half the money in the pool goes right to the state. So your return is already cut in half.”

“Well, at least they give you the other half. And you’ve got to admit that the other half goes to a worthy cause—education.”

He paused for just a moment. “Well...” I thought he was going to say something but he just said, “Okay,” and went back to putting the plug in his shotgun.

“What were you going to say?”

“Well...” I could see he was still reluctant to say it. “In the first place, they actually keep all the money.”

“No they don’t. They pay out prizes. On this jackpot—\$20 million—they’ll pay it out at \$1 million a year for 20 years.” I could tell by the way he was looking at me there was something I wasn’t getting.

“Okay,” he said, “but look at it this way. What if you had \$20 million and you felt inclined to loan it to me at 5% interest and all I had to do was make interest payments for 20 years?”

“That would be a pretty low interest rate.”

“That’s right.”

“Let me see...” I did the calculation in my head. “That would mean you’d give me \$1 million a year.”

“Correct. And with the final payment I’d give you \$1 million and what else?”

“The principal. The original \$20 million.”

“Now, consider the lottery. The state holds the \$20 million prize money and gets to use it at 5% a year. In the 20th year they give you the last 5% payment and...”

I thought a few seconds. “And nothing.”

He just looked at me.

“They get to use your money at 5% a year and, after 20 years they keep the principal,” I said.

“You could look at it that way.”

I looked at my ticket again. “I never thought of it like that before.”

The plug was in the shotgun and he was reassembling it.

“You know, you have a way of throwing cold water on a lot of things. I’ll bet now you’re going to say that

there’s something fishy about the money they give to the schools.”

He worked the slide a few times. “Well, actually, the money doesn’t go to education—though I know they say it does.”

“What do you mean?”

“The way the lottery was presented to the voters was that the proceeds were going to be added to the school budgets, over and above the taxes that were collected for the schools. But what happened was that they saw how much lottery money was going to the schools, then they cut the existing state contributions to the schools by roughly the same amount. The schools don’t actually get any more money.”

“How do they get away with that?”

“It’s the way government works. The same thing happened with the funds raised by the civil forfeiture laws. Supposedly, the funds raised by civil forfeiture—that is, the money and property raised from suspected criminals—was going to be added on top of police budgets. But what happened was that the police budgets were cut by the exact same amount as the money the police raised by confiscations.

“It created a situation where the police in some police departments now have to make civil forfeiture quotas. Otherwise, their budgets will come up short and jobs will be lost.”

I threw the losing lotto ticket into the trash. “So you’re saying that the state runs a lottery to raise money for education, but they don’t actually give any extra money to education, and they only pay interest on the prize money—for 20 years—before they confiscate the principal?”

“You could think of it that way.” Δ

## Shiitake mushrooms for food and for cash — you “plant” them by inoculating logs

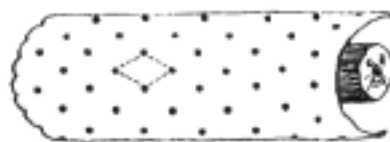
By Lee Harbert

The Japanese have been growing mushrooms for their nutritional and medicinal value for over 2000 years. They eliminated the work and worry of growing them on compost by cultivating Shiitake mushrooms on the logs of deciduous trees. Today, Shiitake mushrooms (*Lentinus edodes*), are exported from Southeast Asia and grown all over the world. They are used in Chinese and Japanese cuisine (in both fresh and dried form), sold by health food stores, and used for a variety of medicinal purposes. The ancient process of cultivating Shiitake mushrooms has not changed; only a few of the techniques have been updated and modified to accommodate different growing conditions.

You begin by *inoculating* a log with the Shiitake *spawn*. The log should be a hardwood: white oak, red oak, chestnut oak, sugar maple, sassafras, sweet or black gum, and other members of the oak family work well. Shiitake *does not* grow well on soft hardwoods like aspen and willow, or on conifers. The log should come from a healthy tree, and be three to eight inches in diameter, and three to five feet long. You cannot use old or diseased wood, and it should be a log that has been cut recently. The best time to cut the tree is between early fall and early spring, just before the buds begin to open.

Inoculation of the log should be done in early spring. Outside daytime temperatures should be above 40° F, but temperatures falling below freezing at night are fine. Drill 20 to 40 holes in the log, one inch deep. Holes should be drilled at six- to eight-inch intervals within the row, along the length of the log. The rows need to be

spaced one to two inches apart, and offset to form a diamond pattern (see illustration). If you are using *dowel spawn*, drill a  $\frac{5}{16}$  inch hole, and lightly tap the spawn into the hole with a hammer. If you are using *sawdust spawn*, drill your hole  $\frac{7}{16}$  inch and insert the spawn with your fingers. Using an inoculation tool works best when inserting sawdust spawn. The



“Diamond” drilling pattern used to make holes for inoculation. (Surface of log is shown in “exploded” view only for purposes of illustration.)

spawn should be packed into the hole until it is level with the bark surface.

Now you must immediately seal the holes, using cheese wax melted at about 300° F. Do not overheat the wax. The flashpoint of wax is 450° F, and overheating can occur easily. If the wax starts to smoke, turn down the heat. Use a wax dauber, or wax baster, to apply a thin layer of hot cheese wax over the spawn, making sure the surface is sealed. A tag may be attached to the log showing the month, year, and variety of spawn used. You will find it handy to identify the log with a lot number or serial number, if you are cultivating for commercial sale.

Once the log is inoculated with the spawn, place it outdoors in a shaded area, where it will remain for about a year. The area should be close to where you live, with cold running water available. The logs may be covered lightly with burlap or pine

boughs to retain moisture. They should be stood on end, crowded together against a sawhorse or other support, on a wettable surface of sod, bare earth, or leaf duff. This allows them to soak up ground moisture from rain and snow. The upper ends of the logs will be moistened by dew, snow, frost, and rain. During this period (known as the *spawn run*), provide extra moisture as needed. If the tops of the logs develop cracks from drying, provide moisture to them. Re-stand or reposition any logs that fall.

It takes about a year for the Shiitake fungus to *colonize* the log. When the fungus is ready to produce mushrooms, white patches will appear on the ends and around the inoculation holes. A temperature change, like that produced by a thunderstorm or rainfall, will induce fruiting (appearance of mushrooms) naturally. You can force the fruiting by submerging a warm log (about 85° F) in cold water (about 65° F) for 12 to 36 hours.

Restack the logs in a way that will allow for ease in picking the mushrooms. Your mushrooms should be ready to pick within one to two weeks. It is possible to induce fruiting two or three times a year, in six- to twelve-week intervals. A log should produce two to three pounds of Shiitake mushrooms over a period of three to six years. Once the log is decayed, it will not produce mushrooms, and it should be left to decompose on the forest floor or in your compost pile.

If you are interested in growing Shiitake mushrooms for your own use or for profit, here are some helpful books:

Shiitake: The Healing Mushroom, by Kenneth Jones, published by Healing Arts Press.

Medicinal Mushrooms, by Christopher Hobbs, published by Botanica Press.

Growing Shiitake Mushrooms in a Continental Climate, by Joe Krawczyk and Mary Ellen Kozak.

And here are four sources for Shiitake mushroom spawn, cultivation tools, reference books, processed Shiitake mushroom products, and just plain good advice:

Paul Goland  
Hardscrabble Enterprises  
HC 71, Box 42  
Cirleville, West Virginia 26804  
304-358-2921

Joe Krawczyk & Mary Ellen Kozak  
Field & Forest Products, Inc.  
N3296 Kozuzek Road  
Peshtigo, WI 54157  
715-582-4997 (M-F 8-5 Central)  
Fax 715-582-0101

Persimmon Hill Farm  
HCR 1, Box 220 SFT  
Lampe, MO 65681

Greenwood Nursery  
Box 686-A  
McMinnville, TN 37110.

Successfully cultivating a Shiitake mushroom crop takes time, patience, and persistence. Paul at Hardscrabble Enterprises and Joe and Mary Ellen at Field & Forest Products have started thousands of interested growers and would be happy to talk with you. Δ

### A BHM Writer's Profile: Martin Waterman

Martin P. Waterman, a frequent contributor to *Backwoods Home Magazine*, writes on the science of gardening and horticulture. He also writes on technology such as computers, communications, and genetics, and how these sciences influence our lives.

Waterman is a rural based writer living in British Columbia, Canada. He spends much of his time writing, gardening, breeding hardy fruit for the north, or on the Internet where he can be reached at:

[martin\\_waterman@bc.sympatico.ca](mailto:martin_waterman@bc.sympatico.ca).

### A BHM Writer's Profile: Jan Cook

Jan Cook has been with *BHM* since the beginning, as a writer, an editor, and was the principal typist for entire issues. She is still the crafts editor for the magazine.

A technical writer for the Department of Defense for 17 years she is also completely addicted to machine embroidery and will write about it for future issues.

Jan says she's a cut-to-the-chase kind of person with little tolerance for things that are supposed to work but don't. She believes in life's simpler things, like poems should rhyme and people should be as good as their word.



### A BHM Artist's Profile: Don Childers

Don Childers, who retired from the magazine in 1999, is the artist who painted most of *BHM's* scenic covers. He had spent many years working for the Defense Industry, painting mock-ups of military equipment still in the planning stage. The stealth bomber and fighter, the HARPOON and TOMAHAWK cruise missiles, and a variety of other once secret weapons are among the many mock-ups he painted at various stages of their development.

He is also an amateur astronomer who has built many of his own telescopes, an amateur inventor of a graphic arts tool to sharpen exacto knives, and has illustrated various historical books. Many of his paintings have been sold to private collectors, and many more hang on the walls of admirals and generals around the country. The Dijon Museum in France exhibits one of his paintings, and several hang in English pubs. Don is moving to Colorado to retire.





## Try these bread recipes that are part of our heritage — and still delicious today

By Thomas C. Tabor

Of all the pleasing culinary odors emanating from a homemaker's kitchen, possibly the most enticing of all is the aroma of fresh-baked bread. What could be better than trying to get a bite before the melting butter has a chance to slip off the edge and onto the plate? I know from my own experience that loaves of homemade bread seldom have a chance to cool before someone is tempted into taking the first slice.

Somehow the pleasures and rewards of home bread baking go beyond the smells and flavors of the product itself. Most of us relate bread baking to early times when life was less complicated and an individual's worth was assessed in terms of the truth and of the basics. For good reason, a lot of us cling to those times, even though they were not really as easy and carefree as we choose to remember them.

Historically, bread baking was not just confined to the home and did not always take the shape of today's loaves. Unleavened breads were often prepared for soldiers and sailors, as well as for cowhands and explorers. In the mid-1800s, army forts sometimes employed full-time bakers who supplied the men and their families with daily rations of bread. Possibly the most common product they produced was called the *sea biscuit*, or *hardtack*. Outside of a firearm, this was one of most important survival items anyone could have in those days. It could be kept for months or even years without preservatives or refrigeration. As long as these hard biscuits were kept free from moisture and bugs, they would last almost indefinitely. In some cases, sea biscuits have been uncovered in archaeological digs, biscuits that were baked over 100 years before. Many times these were perfectly preserved and probably could still have been eaten. If moisture got in, however, it would encourage the growth of bacteria and result in quick spoilage. For that reason, proper packaging was imperative for survival.

Some leavened varieties of loaf breads were produced as well, but these were sometimes considered more of a delicacy, particularly in the case of sailors, scouts, cowboys, trappers, and soldiers. Homesteaders probably used more leavened loaf breads than anyone else during these early years. Due to the yeast and the moisture within this type of bread, it could not be kept more than a few days after baking, making it impractical for those on the high seas or on the trail.

By today's standards, a few of these early forms of bread aren't all that tasty. For example, hardtack is something that you might want to try, but to prepare it for the family on a



*Like most kids, Laura Borgman of Ridgefield, WA, enjoys a piece of fresh homemade bread with jelly.*

steady basis . . . I think not. On the contrary, however, breads like bannock, soda biscuits, gritted and sourdough breads are still considered quite good. In most cases, these aren't really all that difficult to make. The following are a few time-proven recipes that you might like to try for yourself.

### Hardtack or sea biscuits

2 cups of whole wheat flour  
1 cup of water  
1/2 tablespoon of salt  
1 tablespoon of butter



*Mrs. Edna Grover of Vancouver, WA, still bakes bread the old fashioned way in her wood cook stove.*

Note: If you want to extend the life almost indefinitely, leave out the salt and butter.

Gradually add the water to the flour and other ingredients and mix or knead the dough only until clear of lumps, no longer. Continued kneading beyond this point will cause the bread to be not as light, flaky, and brittle.

Roll the dough out to a thickness of around  $\frac{3}{8}$  inch, then stamp or cut into

whatever shapes you prefer. Traditionally, the most popular shape seems to be squares, but sometimes they were made in round shapes as well. These should be three or four inches in diameter. After cutting, make perforations by sticking a fork or other sharp object in the surface repeatedly. This helps to prevent puffing. Puffing causes air voids to form, and in early times these areas were inviting places for insects to set up housekeeping. Place on a greased cookie sheet and bake at 450° F for 25 to 30 minutes. The finished product should be light yellow or tan in color.

When struck on a hard surface it will actually “ring,” and it will float in water, a sign of a “good” product.

A word of warning: If you decide to give hardtack a try, you should understand that these are extremely hard little biscuits. Many a broken tooth has resulted from trying to bite one. The proper way to eat hardtack is first to soak or dip it in some form of drink. For example, give it a dunk or two in your coffee, tea, or water first. You don't want this visit to the past to be followed by a visit to the modern-day dentist.

## Bannock

Another form of frontier bread is *bannock*. It originated in the north country and is still commonly used by many people today. I have prepared this type of bread many times while camping and on hunting trips. Unlike hardtack, which requires some form of oven for baking, bannock is cooked over the fire in a frying pan, and if properly prepared can be

quite tasty. In many cases, the mix was made up beforehand and carried on the trail either in saddlebags or inside the bedroll. When it was time to eat, the mix could be added to a little water and cooked in a skillet over the campfire. While not necessarily a requirement for good bannock, a cast iron skillet seems to produce the best product. Bannock is easy to make and requires very little expertise to turn out a great product.

1½ cups of flour  
½ tablespoon baking soda  
½ tablespoon salt  
¾ cup of water

Simply mix the dry ingredients thoroughly, then add the water. Knead until all lumps and dry spots have disappeared. Form into a patty and place in a hot, greased frying pan. Fry until it is cooked through. Bannock tastes best right out of the pan, while still warm, but it's also good cold.

## Parker House Rolls

The American tradition of Parker House Rolls dates back to 1855, when Boston's famous Parker House Restaurant was opened. Here's one version of this roll:

6 to 6½ cups of flour  
½ cup of sugar  
2 teaspoons of salt  
2 packages of active dry yeast  
½ cup butter  
1 egg

Combine in a large bowl 2¼ cups of flour, sugar, salt, and yeast. In another bowl combine 2 cups of hot water (130° to 150° F), ½ cup butter and 1 egg. When the butter is softened, pour the wet ingredients over the dry ingredients and beat two minutes, occasionally scraping the bowl. Fold in one cup of flour, or enough to make a thick batter. With a spoon, stir in the additional two cups of flour to make a soft dough. Turn the dough onto a lightly floured surface and knead for approximately 15 minutes. Place the dough in a greased bowl and let rise for 1½ hours. Then punch the dough down and shape it into rolls. Let it rise until rolls have doubled in size. Bake in 375° F oven for 18 to 20 minutes. This recipe makes about 3½ dozen.

## Sourdough bread

An old favorite, sourdough bread has been with us for many years and is many peoples' idea of the perfect accompaniment to a meal. In Alaska during the gold rush it

became the preferred bread of the miners. Soon the label “sourdough” was attached to the miners themselves.

### Step one

1/2 cup of sugar  
1 cup of water  
1 1/2 cup of flour

Mix above ingredients into your starter. (See below for starter.) Cover and let stand at room temperature for 10 to 12 hours. Remove 1 1/2 cups and place in a covered jar in the refrigerator to replenish your stored starter.

### Step two

1/3 cup of sugar  
1/2 cup of vegetable oil  
2 teaspoons of salt  
1 1/2 cups of water  
4 cups of flour

Mix sugar, vegetable oil, salt, and water gradually with approximately four cups of flour or until a hearty dough is made. Knead thoroughly until no lumps remain. There is no such thing as “too much kneading” — the more the better. Place dough in an oversized, greased bowl and cover with a towel. The dough should be allowed to rise at room temperature. This is best accomplished overnight. The next morning, punch your dough down and divide into loaves. This recipe will make about three normal sized loaves. Place in greased baking pans and allow to rise again until size has doubled. Bake at 350° F for 45 minutes. A little butter allowed to melt over the top of the loaves is the final stage and will add flavor.

## Corn bread

Corn breads have been around as long as our country, particularly in the southern states. Try this recipe for a tasty addition to your country meal.

2 1/2 cups corn meal or stone ground meal  
1/2 cup flour  
1 teaspoon of salt  
2 teaspoons of baking powder  
1/2 teaspoon of soda  
2 tablespoons of melted margarine or shortening  
1 cup of buttermilk (approximately)

Mix ingredients, adding enough buttermilk to make a thick batter. Pour into greased baking pan. Bake in a 425° to

450° F oven for approximately 30 minutes or until brown. An iron skillet will help ensure excellent results.

## Soda biscuits

Biscuits similar to these can be found on many a country table throughout rural America and are great for sopping up gravy. Soda biscuits seem to have their roots in the southern states, where the delicacy of biscuits and gravy are a top seller on most restaurants’ breakfast menus.

2 cups of flour  
1 teaspoon of salt  
3 teaspoons of baking powder  
1/4 teaspoon soda  
1/3 cup shortening  
1/2 to 3/4 cup of buttermilk

Mix flour, salt, baking powder, and soda. Cut in shortening until thoroughly mixed. Add just enough buttermilk to make a soft dough. On a floured board, knead six to seven times. Roll out and cut into biscuits. Melt about two tablespoons of shortening in a baking pan. Put in biscuits and turn immediately to grease the tops. Bake for 10 minutes or until brown.

## Gritted bread

Corn has been added to breads for many years, either as a substitute for flour or as a supplement. Here is an example of a distinctively different product as a result.

2 cups gritted corn (see below\*)  
1/2 cup sweet milk  
1 teaspoon of sugar  
1 teaspoon salt  
2 tablespoons of soft butter  
1/2 teaspoon baking soda  
1/4 cup flour

Mix ingredients together, adding flour as needed. Bake in greased iron pan at 400° F for approximately 25 minutes.

\*Gritted corn is made by scraping ear corn with a grater. The corn must be past roasting ear maturity, but not too hard. If a grater was not available, homesteaders sometimes made one by puncturing a piece of tin with a nail. This porous scraper was then used to grate the corn while still on the cob.

## Sourdough starter

Maintaining a starter was an important responsibility for the early American homemakers. The recipes—and starters—were generally passed from mother to daughter. In



the event a homesteader's starter turned bad or was lost for any one of many reasons, it was sometimes necessary to travel great distances in order to get one from a neighboring family.

Here is a more modern starter that uses a small amount of yeast to get started. While the yeast gives you a jump ahead, the end product is much the same as any other, more traditionally begun starter.

1 tablespoon of active dry yeast  
2½ cups of warm water  
2½ cups of unbleached white flour

Dissolve the yeast in a glass bowl containing one cup of lukewarm water. Stir in the flour and remaining warm water and mix well. Cover and let stand four to five days in a warm place. Temperature should be between 75 to 90° F. A windowsill is a great place, as long as it doesn't get too warm. If it gets too hot, the yeast will be killed. Until it's needed, the starter can be stabilized in the refrigerator.

### **Sourdough potato starter**

After boiling several potatoes for your evening meal, pour off the still-warm water. Allow to cool until lukewarm and add flour to produce a thick batter. Let stand for at least 24 hours or until it smells yeasty. The starter can be stabilized in the refrigerator. This method was commonly used historically when potatoes were available.

Δ

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### **A BHM Writer's Profile: Alice Brantley Yeager**

Alice Brantley Yeager was born near Akron, Ohio, to parents who were "plant people" and she was introduced to plants at an early age. Her family moved to Texarkana, Arkansas, when the Great Depression came along, money was still in short supply, and gardening was almost a necessity for most folks if they had space for a garden and Alice displayed her natural gifts with plants including wild food plants.

After two years of college, Alice worked for the Navy Department in Washington, DC, before World War II, and the Southwestern Proving Ground in Hope, Arkansas during the war.

After the war, she worked as a freight agent for some commercial trucking companies and as an Arkansas real estate agent. She is now concentrating on being an artist and a garden writer as these are the things that give her the most personal satisfaction. "When you think about it, there are few occupations wherein one is allowed to eat one's subjects and what is better than a juicy tomato or cool cuke?"

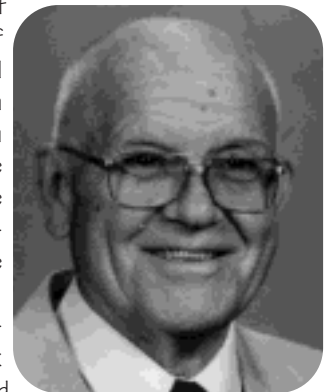
Alice married her photographer husband, James Yeager in 1955 and they have one daughter, Leah Y. Gray, living near Houston, TX. Leah and her husband, John, have two daughters Sarah Kathleen and Alexandra Hope, ages 8 and 11.



### **A BHM Writer's Profile: James O. Yeager**

James O. Yeager is retired from 35 years of government employment with the Department of the Army as an engineer. He has fallen on hard times and is now employed by his wife, Alice, as a not-too-well paid photographer. He was born in Morgan City, LA, but shortly after his birth the family moved to Texarkana, Arkansas, to settle on a portion of the original Yeager estate homesteaded by his grandfather. James and Alice live on an inherited 20 acres of the same property.

An interest in photography was kindled in childhood when box and bellows cameras and black and white photos were the norm. After he and Alice married, she began writing for a small gardening magazine and used him as her photographer. He bought more and more expensive equipment: lenses, flashes, reflectors, tripod, monopod and other accessories. "Full gear with accessory vest is comparable to someone going on safari." His present career proves there's life after retirement. "Photography teaches both patience and to quickly take advantage of the moment. Butterflies flutter. Shadows move. Breezes won't let plants stand still. Harvested greens and flowers wilt. Bugs never cooperate. People get disgruntled when asked to stand too long in the sun." James has seen it all.



## Here's a cold storage house as good as our ancestors built

By Harry G. Nemec

Back in the early seventies, my wife and I decided to invest in our own ideas to “get ahead.” I was not earning enough money. We had tried second jobs, but that wasn’t cutting it either. We could exist and plod along, I could see that. It took every cent I was earning to pay our living expenses. That meant we would not have any savings. We needed a way to use our talents as an investment.

We decided to venture out into the woods of central Pennsylvania. We purchased a five-acre parcel of mountain land and a cabin, since we could afford it. The reason we could afford it was because there was no electricity, no running water, and no plumbing. An old cookstove was the source of heat and cooking. Water was available from a spring a short walk from the house.

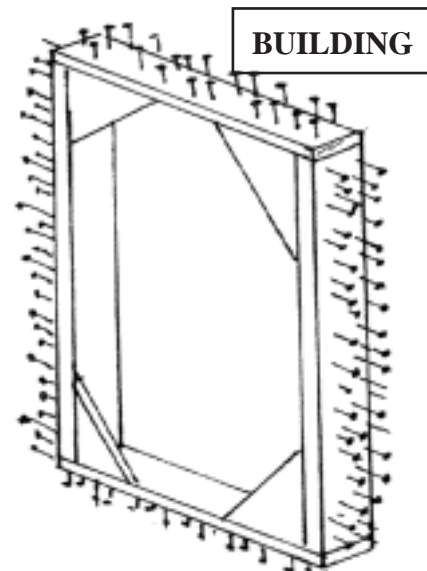
The property was far enough away from the mainstream of life to be a cheap place to live. It was a desolate hunting area, and as such, a luxury for some people, an extra place to get away to at times. For us, it was an

opportunity to have a place to get out of the rain until we could afford to fix it up for year-round living. We discussed the best way to capitalize on our investment. We could clear some land, grow our own food and sell the excess, raise chickens and sell eggs. We would make it into a five-acre farm.

During the first year, we obtained electricity, and with that, power to run the pump (which meant running water and inside plumbing) and automatic heat. We were becoming civilized. We had an acre of level woods cleared, and we planted a general crop. We were becoming a farm, and no farm is complete without a place to store potatoes and root vegetables.

I was determined to make the hunting cabin and mountain ground into a five-acre farm. All I needed was a barn, a storage house, a tractor, and a patch.

With the completion of the inside plumbing and automatic heat, we could move on to the next projects. The second was the patch, which involved clearing land and planting crops. With our crops planted, we



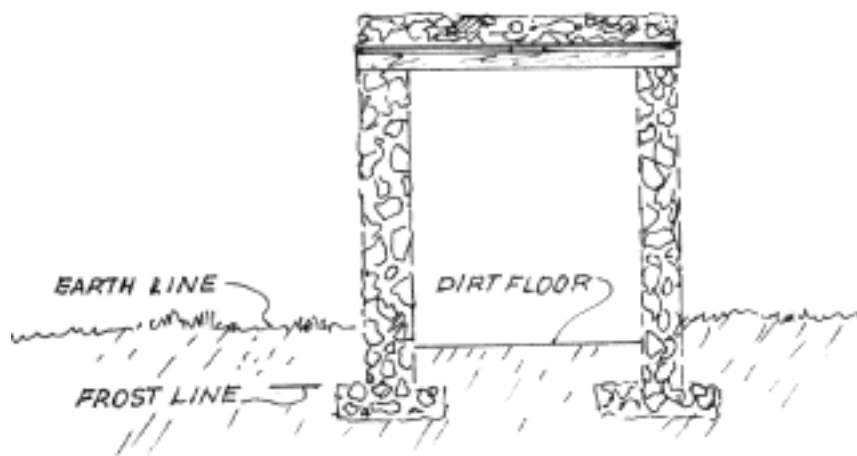
*“Porcupine” door frame*

needed a storage facility so they would feed us all year and until the next crop came in.

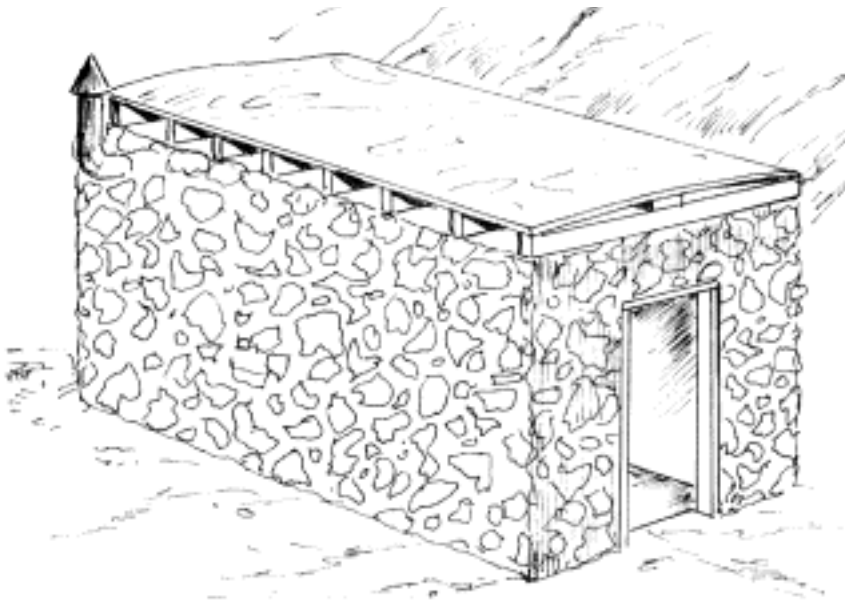
After considerable study on the subject of food storage, moisture, ventilation, and rodents, I went on to look at the many types of construction. I chose to use what I had at hand—natural mountain field stone.

I was told that the stone found on the ground wasn’t good enough for the project because it had been weathered and wouldn’t hold the concrete. Since I had all that stone just lying around, it didn’t matter to me if they were right or wrong; I was going to do it my way. The way I figured it, since our ancestors built barns, houses, fence rows, and everything else using the stones that were lying around, I could too. Their buildings and fence rows are still around. Maybe the roofs have caved in and wood rotted away, leaving the shells of what were buildings years ago. I could use the same material they used and have a storage house for the cost of concrete and some sweat.

My mind was made up. I was going to use the stones that were all over the place. Next I had to figure how many stones I needed, but that meant I had to know how big this thing was going to be. How much of what was to be stored? Now the real thinking began. I reverted back to the basics: What do we buy that we can grow? I studied



*Cross section of cold storage house, seen from the end*



*This view of the cold storage house shows the 2x4s on top of the walls, supporting the plywood roof. The concrete roof was poured on top of this plywood.*

our shopping habits: potatoes, carrots, beets, apples, yams, cabbage, onions, and the like. I could grow them and store them. I computed the mainstays and came up with 400 pounds of potatoes. (We usually used five pounds per week, and I added some to plant, and surplus). I then went to the store and looked at the pile of 20-pound bags, and measured the volume that made up 400 pounds. I figured that I could put 400 pounds of potatoes into a bin measuring two feet wide and five feet tall by three feet deep, or thirty cubic feet.

I measured in the same fashion for everything I was planning to store in the building. I then converted the total cubic feet into dimensions that would comprise the inside of the building. The result of my calculations showed that the cold storage house would have to be six feet by eight feet, with a six-foot ceiling, or 288 cubic feet. This measurement included walk-in space.

The next part of the project involved building materials. To determine how much stone I would need for this project, I used the same measuring technique as I had used to measure the space requirements for the contents of the cold storage house. I had to determine the thickness of the walls and

make an allowance for the depth of the wall into the ground to the footer (or foundation), minus the space for the door. I had enough stone to start, and I would find more while digging.

I chose a portion of the land that had been used previously as a place to push unused ground while leveling for the house, since it faced the patch. I staked off the area, allowing for the thickness of the walls. Then I grabbed the pick, shovel, friendly digging iron, and gloves.

The initial day's digging went fast, as I was digging from the side of a small depression into a steep rise. I did not need shoring, since the rise was only six feet or so. I was able to throw the dirt right into the patch.

Because of the purpose of the building and the design of the walls (more than a foot thick), the footer had to be 24 inches wide and 6 inches thick, and it had to be down below the frost line (in our area, 34 inches).

The dirt floor acts like a chimney, permitting earth-temperature, moisture-laden air to flow into the cold storage building. It is this moisture-laden air that prevents the stored food from drying out or freezing.

The design calls for a ventilation pipe to provide an air passage for the ventilation of the moisture coming out

of the ground through the dirt floor. If the footer isn't deep enough, frost will use the passage through the vent pipe, freezing everything in its path.

In a couple of weeks I had the footer dug, and a sizable pile of rocks that I'd found in the digging.

I mixed the concrete for the footer, using the same formula I had used for an earlier septic tank project (one part concrete, two parts sand, three parts stone), and reinforced it with scraps of re-bar, stones, and fence wire.

The stones were protruding out of the footer, ready to accept more stones that would make up the wall.

Since I was using concrete rather than mortar, I had to let each day's mixing set before I could continue. I was thankful for that.

I placed the stones vertically, in such a fashion that there was a space between them. I was building two walls with a small space between them. When that concrete hardened, I filled that space and put up more vertical stones, creating another space. Before I set each stone in place, I tried it several ways to get the most vertical coverage out of each stone. Then I wet the stone and set it into a "cushion" of concrete and propped it into place so the concrete could set.

Every day I would come home from work and mix up a batch of concrete and set some stones. Eventually, the ugly hole began to take the shape of a crude building sticking out of the side of the rise in the ground.

I began in the corners, setting stone that would comprise the walls against the dirt sides of the hole first, since all I had to do was climb over the footer rather than go around the wall to work on the other wall. (I had figured that the raw stone would hold the concrete just as well a few months later as it would right that instant, just as long as I had used a wet concrete mixture and a dampened stone.) It got to the point that I was sorting rocks to find the perfect rock for the next placement. I then began to try breaking off some of the rock imperfections, rather than



spending so much time finding the best fit.

Sorting a pile of football-sized rocks every time I needed another rock seemed like a waste of time, so I drafted my wife to assist. She sorted while I set the rocks. That lasted for a couple of hours; then I was sorting and setting the rocks by myself again. (I may have insulted her by discarding a rock that didn't fit where I had wanted it. She was better at sorting the laundry and stuff like that, anyway. I remember some words about where I could find more rocks that she didn't need to hand me.)

By that time, the structure was taking shape, and the walls were high enough that I could begin planning for the roof and ventilation pipe. The pipe hole had to be planned so that varmints couldn't gain access to the food that was going to be stored inside. I used a three-inch pipe and put a quarter-inch wire mesh screen inside the pipe to keep varmints out. The ground floor of the structure would provide a "warming" effect in the cold winter weather and circulate the natural moisture around the food that was stored. The vent pipe permitted this air flow. Failure to have air circulation permits fungus to grow and ruin the stored food.

Getting back to the roof construction: Once the vent pipe was positioned, I straddled the six-feet-apart

upright walls with 2x4s on edge about a foot apart and put a furring strip lengthwise in the middle (to pre-stress the poured roof). I covered that with half-inch plywood, tacking it on the edges to form a slight bow.

Since the 2x4s were on top of the walls, there were open gaps between them at the ends, between the top of the wall and the plywood roof. I filled in these gaps with concrete and small stones. I was now ready to work on the front wall, which would contain the door.

I measured the door frame using an old door I found out back. I made a 2x8 frame around the door and tacked it together so that it would remain square (or as square as the door, anyway) by nailing triangle pieces on all four corners.

I had left a roughed-out opening in the front wall, and I placed the 2x8 frame in the opening to be sure of the fit. Then I removed it and carefully drove 20-penny nails halfway into it from the outside, all the way around it, so that the heads would hold onto the concrete. The frame resembled a porcupine until it was set into place. This frame was first held in place by bracing, and then by filling in the voids in the stone wall with a concrete mixture between the stone wall and the nails. I then installed the doorstop trim on the inside of the frame, using a common furring strip.

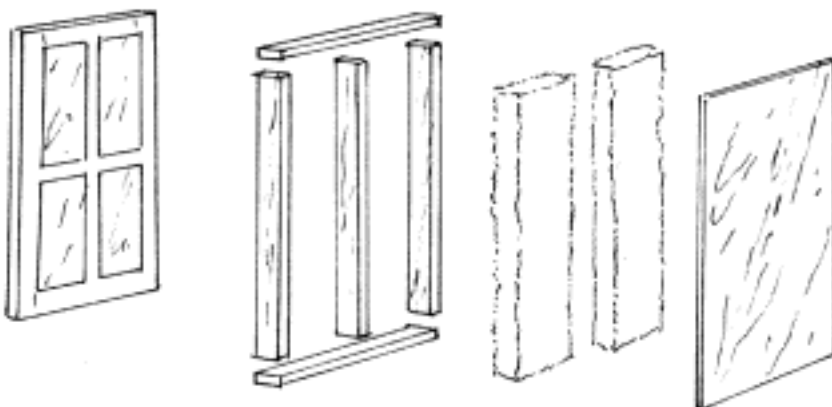
The door I used was now going to fit into the 2x8 frame. Next, I had to frame it out to make it into a thick insulated door. I made a 2x4 frame on it, filled the openings in the frame with insulation, then put a piece of half-inch plywood on the open side of the frame. Before I fastened it all together, I put the door in place and tried to open it. I discovered the side that opened out needed a bevel to ensure a snug fit. I removed the screws holding the panel to the frame, made the bevel adjustment (hitting the opening-side 2x4 a couple of times with my hammer) and trimmed the plywood after it was fastened. I put on strap hinges and rope for a handle.

With the door on and the plywood roof not yet completed, I had an opportunity to remeasure and determine if I needed more head room. I was pleased to find that my measurements had worked out perfectly.

The final stage in the completion of the cold storage building was to pour concrete onto the roof. I nailed some scrap lumber around the edges of the form to prevent the concrete mixture from running off. I gathered all the scrap metal I could find, including an old bed spring. I cut everything into appropriate sizes and laid it all in a checkerboard weave pattern in the roof form. I mixed a batch of concrete and poured it into the form over the metal pieces, which I had wet down pretty well. I then put a layer of wet rocks into the still-wet cement, pushing them as far down into the concrete as I could.

At the end of the week, I removed the form edges and examined the seal. I even hit it a couple of times with a hammer to check it out. It was "rock solid." Time to build the bins and shelves.

That year we filled the cold storage house and had pears until after Christmas, tomatoes until February, potatoes until March, and some to plant. We also had beets, carrots, turnips, and apples. We ate healthier from then until we left our farm. Δ



*"Exploded" view of the insulated door, showing the old door, the framing, the insulation, and the plywood panel*

## Our homestead motto: Make-do

By Marjorie Burris

**D**uring the Depression years of the late 1920s and the early 1930s, there was a common saying in our part of the country: "Use it up, make-do, or do without." "Use it up" meant don't waste anything. "Do without"—well, we all know what that means. But *make-do*—ah, *that* was the challenge.

Make-do in 1995 lingo is almost explained by "recycle"—but not quite. "Recycle," to most minds, means "Turn it back to the manufacturers so they can melt it down and use it again." *Make-do* has a broader meaning: it requires a bit of imagination, a bit of ingenuity, and sometimes a bit of humor. It can even have a spirit of adventure about it.

When I was a girl, if we needed anything, we didn't just go down to the store and buy it . . . Oh, no! We were very careful how we spent the few dollars we managed to earn, so we looked around to see if we had anything on hand we could utilize to do the job. This make-do spirit has lived with me all these years, and we find it is still a very good motto on our old homestead today. In fact, we enjoy seeing how creative we can be to use whatever we happen to have on hand. Here are five examples of our make-do philosophy.

### Bed springs fence

After we bought our land, we found 50 metal army cots of World War II vintage crammed into the barn loft, all with springs too saggy to use as beds. When we needed angle iron, we would cut a bed apart and hang the springs on a nail on the side of the barn. We had quite a collection of springs.

Early one April morning, as we were making garden, the rancher who ran cattle on the Forest Service land

around us stopped by and said he was turning his herd into our range the next day. We had no fence around our garden, and since this is open range country, it was up to us to either make a fence or give up on gardening. Having neither the time, the money, nor the inclination to rush to town for barbed wire, we decided to use the bed springs to make a "temporary" fence. That was 20 years ago. Our bed-springs fence still stands, and since it is the only section of the garden fence which has never been breached by range cattle or jumped by the local deer, we have no immediate plans for replacing it. What is "temporary," anyway? A month? Twenty years? A lifetime? I suppose it depends on where you stand to view the universe.

And we've not had a remark about our fence for at least ten years now. It used to be the unimaginative visitor would say, "What's that?" The imaginative visitor would say, "What a good idea!" And the smart-aleck visitor would say, "I know some people like to sleep on their side, but isn't this a bit much?" Yep, make-do sometimes requires a sense of humor.



### Bathtub raised garden

We found ourselves short of time early one spring when an unexpected break in the weather made an early planting possible. A heavy blanket of unmelted snow prevented us from tilling the garden, and since we had always wanted to try a raised garden bed, we thought this would be a good time to make one. But what to use?

We didn't have the time to stop and cut boards on the sawmill for a frame, and go to the store and buy concrete blocks? Heavens, no! Then we spied the bathtub our son Duane had hauled up to the homestead when he remodeled his bathroom. Why not?

We leveled a place on the sunny south side of my little wash house, set the tub close to the house and hid the ugly ends with a false rock wall. I covered the bottom of the tub with fist-size rocks, then we filled the tub with topsoil. Since the tub held only a small amount of dirt, I could easily amend our very acid soil with a sack of limestone, and for the first time I could raise lettuce. We quickly found out that the birds and ground squirrels like lettuce, too, so Husband made a tall wire frame to cover the top of the tub and attached the frame to the side of the building,

Our funny raised garden is only a few steps from our kitchen door, so it is easy to plant and tend even when we can't get to the big garden. Fresh lettuce early in the spring is such a treat. (But yes, I still do have to wash the lettuce before eating it, even if it is raised in a bathtub.)

## Big tank wood bins

With the purchase of our land, we also inherited two big metal tanks that had once been used for water storage. Time and neglect had turned the bottoms of the tanks into lace, making them unusable when they stood upright. But tipped over . . . well, we needed a woodshed, anyway. The problem was, how to get the big tanks off their six-foot-high platforms and down the hill, then down the road to a place near the buzz saw where we cut wood.

Husband and I were finally able to hook chains and cables around a tank and pull it off the platform with the tractor, but the big, awkward thing refused to be pulled meekly along behind the tractor. Every rock or root it hit rolled it sideways or endways until finally it got away from us completely and rolled downhill and got wedged between a rock and a tree, which squashed it out-of-round.

We were not happy. We shoved, pushed and tugged, dripped sweat, and almost cried until we got tank number one into place. Took half a day.

Then we sat down with a glass of iced tea and were pondering how to move the second tank when two of our sons, their wives, and two good friends drove in and wanted to know what was going on. We explained. They laughed, "Pull it off the platform and we will move it." We pulled the tank down, they swept all the debris out of it, and then all six adventurous young adults lined up in the tank and began walking, making the tank roll. When they came to a steep downhill slope, part of the team turned around and walked uphill, making an effec-

tive brake. In no time at all they jockeyed that big tank into place exactly where we wanted it. I could tell from the squeals and laughter coming from inside the tank that our "Big Tank Walk" was every bit as much fun as any carnival ride.

We positioned the tanks facing south, so not much rain and snow blow onto the wood. The tanks' lacy bottoms allow the wind to circulate through the wood and dry our fuel. And when we have both tanks full we know we have enough wood cut for the winter. We like our big tank wood bins.

## Barrel & rock fence posts

We needed to put up a pig fence, but *fence* meant *posts*, and *posts* meant *digging*, and *digging* meant *hitting rock* and *rock* . . . *Rock?! We've got lots of rock!*

But rock has to be contained somehow. We used all the wire mesh concrete reinforcing we had to make cylinders for rock posts, but we still needed more posts. What about all those barrels stashed away in a far corner of the pasture? Yes, the ones that some thoughtless hunter had used for target practice some time or another. Not much good for holding liquids, but perfect for holding rocks.

We put the more attractive wire cylinder fence posts on the front side of the pig pen and used the barrels on the back side where they don't show much. The pigs did not knock down any of the posts, so we considered our make-do fence posts well done. They certainly saved us a lot of time and energy.

## Wheels for hose hangers

We are blessed with a good spring with gravity flow pressure, but we have to use lots of hoses and sprinklers to spread the water around. That means we have hoses distributed all over the place, and when cold weather sets in we have to drain all those hoses

and hang them up. That takes *many* hose hangers.

Also on our property we found about 20 old wheels (yes, this was a *junky* place) that had lain so long the tires were almost fused onto them. We couldn't get the tires off, so we took the wheels to the service station and the attendant removed the tires on his machine for two dollars a wheel. We thought this was a good price considering the work involved, and the station disposed of our old tires as well.

The wheels make perfect hose hangers and it makes us proud that we are able to use the antiques instead of letting them lie around.

This is just a sample of our make-do. Perhaps you have an interesting make-do project you'd like to share with *Backwoods Home*. Why don't you write Dave a letter and tell him about it? Maybe you can give the rest of us some ideas, too. Δ

### A BHM Writer's Profile: Charles Sanders

Charles A. Sanders, 44, his wife Patti, and three children live in southern Indiana on 39 acres of pasture and timberland. They raise beef, poultry, an orchard, and a large garden. The surrounding countryside and woodlands provide the addition of deer, squirrel, rabbit, and wild turkey for the family. He has been an Indiana Conservation Officer for over 23 years.



In addition to having articles in *BHM*, he has been published in *Back Home*, *Fur-Fish-Game*, *Good Old Days*, *Outdoor Indiana Magazine*, and several local newspapers and publications. Other writing projects are underway.

In addition to writing, his other interests include fur-trapping, American history, radio, winemaking, and devising handy projects in the workshop.



# The saga of Benjamin, the backwoods, homeschooled boy who wanted to get a job

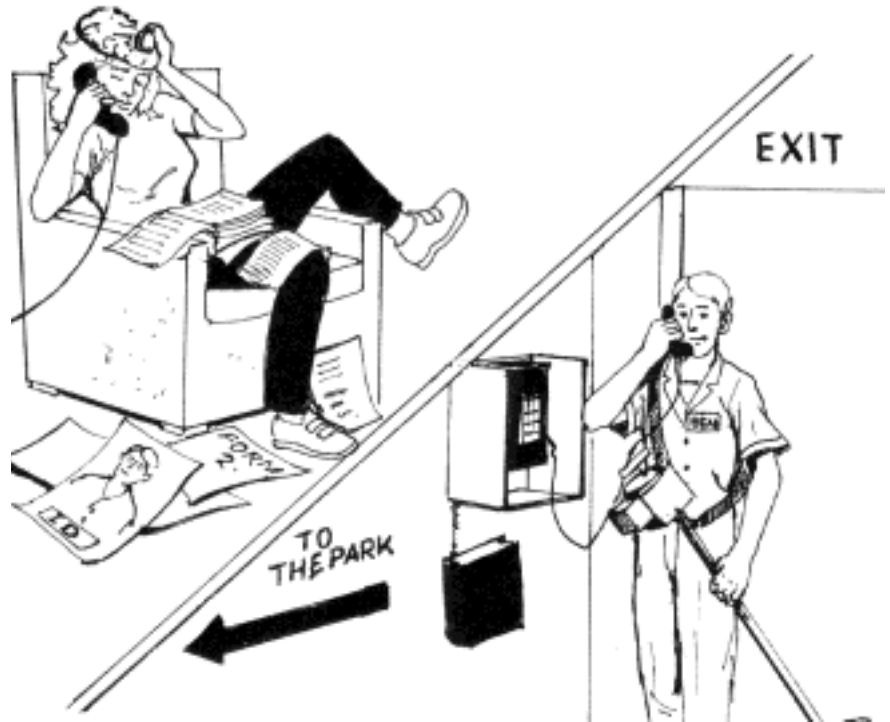
By Margaret Wright

**R**aised in the woods of Northern Idaho, home schooled by loving, protective parents, he was a happy, carefree child for the first sixteen years of life. The sixteenth summer, reality hit, and he discovered his “toys” were costing more, and Mom and Dad were expecting contributions of a higher percentage than in the past. Hence, the idea to get a real job came into Benjamin’s mind.

Odd jobs for people in the area around our home no longer brought in the amount of money needed to support his hobbies. After searching the newspapers for several weeks, he found an ad for a job that sounded suitable for his training, with a schedule that would fit his lifestyle. The local theme park (15 miles away) was hiring teens to fill in for the regular summer workers who were leaving for school and college.

We stopped one day on the way home from town to pick up an application. I was always on the lookout for learning experiences, so I figured it would be good practice filling out the forms. After all, we always knew the day would come when our offspring would be ready to fly from the nest. I helped him fill in all the little lines with the details of his existence. Pretty basic stuff.

However, I cringed when we came to the “education” part. I have an unshakable belief in keeping the children at home under the care of their parents. Benjamin’s older sister was home schooled and has done very well, but this was the first test of how the outside world would react to *this* child—and I was a wee bit nervous. Our son was going to be judged on a decision that we, his parents, had made when he was a little bitty thing



so many years ago. We just wrote in the two words “home schooled” across the “education” blanks.

The paper sat around for a few days. He reminded me for the umpteenth time, “Did you mail it yet?” Oh well, it would be a disappointment for him, but that’s learning, too, so I sent it in.

I had actually forgotten it when the phone rang a few days later and a gentleman asked for Benjamin. I took the message that Benjamin was to meet him at his office the next day at eight a.m. for an interview. I could have swooned at that point. I wanted to yell at him, “No, no, you cannot take my child from me,” but I controlled myself and got the information.

We were up earlier than usual. Benjamin was in a high state of anticipation. I was suffering from an extreme condition called anxiety. OK, I told myself, there is a slim possibility of his being hired. What do we need

as far as paper work? I had no idea, so I called the park’s personnel office. We were told to bring his birth certificate, social security card, and a picture ID.

Picture ID? Why would he need that? The office lady says, “The federal government says everyone has to have one before they can be employed.”

“No, we don’t have a school picture ID.” (I always knew the same kid would come down the stairs every day to do his school work.)

“Well, what about a year book?” Yeah, right, for one kid. (We did draw his picture a long time ago and write a story about him.)

“OK,” she says, “He can work one day without the ID,” while Mom figures something out.

Off to the theme park we went. After a 15-minute interview, Benjamin came back to the truck with his

work schedule and announced he was going to be rich. One of the managers told me he'd had several home schoolers work for him over the years and they work out just fine and are very self-motivated. I was relieved to hear that. At least now I know it's not a permanent scar on my child's unblemished record.

Actually, most people do give good recommendations for home schoolers. I don't know why I was anticipating problems.

We were sent over to Personnel to fill out the mountain of paper work and produce our documentation that this child exists. I produced his birth certificate, social security card, immunization records, and a picture ID with fingerprints. It had been made by the Sheriff's Department and was to be used in the event he was ever stolen and we decided we wanted him back.

Well, everything was in order, but the ID would not work. *Fingerprints*, no less, and the government says No. It might not be him. Well then, why did the Sheriff's Department put their seal on it?

Plan B: Into town to the driver's license bureau. Yes, we could get a picture ID, but we needed three proofs of who he is, along with a certified, homogenized, and pasteurized birth certificate from Boise. I had one, but it wasn't the right kind of copy. They want the kind that costs \$10 and takes 30 days to get here. OK, I've got "my copy" of the birth certificate, birth announcement that was in the paper, church blessing certificate, immunization record, and a Medic Alert Card I carry in my wallet that matches the number on the bracelet he wears. Nope, not enough proof he's who I said he was. (Look, do you want to see the Caesarean scar; it's a beaut.)

Plan C: Go get a passport! Now that's simple compared to Plan B. We can get the pictures made, only \$30. Yes, I can get them that day. Then to the courthouse with my folder of info and the clerk there says, "No problem." Pay them \$40 and he will have a

passport in two weeks. Let me get this straight: I can't get this kid a personal ID card from Kootenai County to work in a local theme park, but I can get him a passport that will let him travel all over the world? The answer to that was, "Go figure!"

If not for the time frame involved, I would have done the passport thing. After all, isn't a mother supposed to pull out all the stops for her child?

Benjamin is showing signs of wilting by now, but that's OK. "Don't worry son, I'll get you that job if I have to call the Governor."

We stopped by the Sheriff's Department on the way out of town, and the sweet, portly gentleman safely hidden behind six inches of bullet-proof glass just smiled and said, "Sorry, we don't do personal ID's any more. We have 15 or 20 parents a month needing help with the same problem." (At this point, I can see why he's behind that glass.)

Back to the theme park (on the second tank of gas for the pickup that morning). I tell the Personnel Manager my tale of woe, and she is as distressed as I am at this injustice. She digs out the Federal Regulations Book that has all these rules, and as we are reading down the list of items that so far have given me nothing but a headache, we find that a person under the age of 17 can use a statement of identity from their personal physician as to who they are and the date of their birth. This will circumvent the requirement for a Personal Picture ID!

OK...Plan D: Back to town, (22 miles) to storm the doctor's office. (Hang in son, we're on a mission!)

The receptionist could probably tell by my demeanor that I was getting close to murder or suicide (depending on the outcome of our visit), and she proceeded to offer all kinds of help. She made several copies of Benjamin's records and stamped them with the doctor's "stamp of approval." She even signed with her own name, saying that might help.

By now Benjamin was tired and hungry and even said maybe he didn't want a job.

"Are you kidding? This is a matter of pride and principle, and I will get you hired and working if it kills both of us!" This from a devoted mother who just a few hours earlier was close to tears because her little fledgling was going out into the big bad world.

Back to the theme park, and through the gate for the thousandth time. Except this time they just waved us through without any questions. (By the way, this time the parking attendant had me park in the handicapped space. Go figure.)

Down to personnel. . . Well praise be to the gods that watch out over fools and children with kamikaze mothers, all the paperwork passed inspection and he got his coveralls with a T-shirt and a little badge that had his name on it.

Back home after nine hours of our (my) non-stop mission, I settled down with two aspirins and a coke, when reality hit. "Oh, no! What have I done?" My sweet, innocent child whom I have protected with my life has been thrust out into society to fight the tigers, and I'm the one that made sure it happened.

Just then the phone rings and that sweet little voice says, "Hi Mom, it's Benjamin." (Like I didn't know who he was . . . after all, now I have proof!) "I'm having a blast. They let me use the big weed eater!"

It's official, my fledgling has flown the nest and I am so glad we kept him at home as long as we could. Δ

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## For this resourceful couple, primitive survival skills are a path to self sufficiency

By Terrie Clark

“Just do it!” says John McPherson, echoing the ad for athletic gear. He’s not referring to aerobics, though: he’s talking about deciding to live a more self-reliant lifestyle. He speaks from experience, and he knows that some of the biggest obstacles are the fears that can come when you temporarily lose sight of your goal.

John says making that decision, that initial break, is the hardest part of making such a lifestyle change. He concedes that making that decision for himself may have been easier than for most. John made his choice shortly after being discharged from the Army in 1972. He was 28 years old and single. He’d been around the world a couple of times and, like an 18-year-old just out of school, he was without responsibilities or obligations to anyone except himself.

Today John and his wife Geri are living the lifestyle of their choice in a log cabin they built on 40 acres of native prairie in northeast Kansas.

Some of the first visible indications of the McPhersons’ lifestyle as you approach their home are the rail and pole fences, the windmill and water tank, and the solar panels on the roof. A further look around reveals the semi-permanent grass shelter (9x9x17) they built three summers ago, and right in front of the house you see John’s flint-knapping area. Inside the house, you find the primitive stone tools they used to hollow out a 20-foot log canoe, the earthenware pots and the baskets Geri has made from materials she gathers within 200 yards of their house, and the wood stoves and kerosene lamps.

John and Geri strive for the ultimate in self-sufficiency, reaching back to primitive skills. In earlier times, people lived by making whatever they needed from materials the natural



John and Geri McPherson  
(Photo by Ann Turbin)

world provided. They made traps, cordage, cookware, and tools. This level of self-sufficiency has always been John and Geri’s goal. It has led them to acquire the necessary knowledge and mastery of the day-to-day skills required to provide for themselves should they unexpectedly find themselves “naked in the wilderness.” Although they don’t live at this level continuously, they consistently use the primitive skills they’ve mastered, keeping them as natural as flipping a light switch or starting a car.

As a boy growing up in New York state in the Appalachian mountain area, John spent his free time camping, hunting, fishing, and daydreaming of living a wilderness life in a self-built log cabin. In 1964, he joined the Army Paratroopers, and those boyhood dreams seemed forgotten.

While in the Army, John was injured during maneuvers and suffered a ruptured disc in his back. He underwent surgery to correct this condition. Fourteen months later, he was serving a tour in Viet Nam. The injury, the subsequent surgery, and the tour in Viet Nam combined to limit his activities. Unable to continue jumping, he was transferred out of his airborne unit and re-assigned as a platoon sergeant of a headquarters company.



Geri in the kitchen



After his discharge from the Army, John again had serious trouble with his back and was assessed as partially disabled. Two years later he underwent a second surgery, and three years after that was assessed 100% disabled retroactive to his last hospitalization. His back is a condition he's learned to live with. In almost constant pain, he wears a back brace and has learned his limitations — what he cannot do at all and what he can do within limits. The disability check he receives from the Veterans Administration pays for the physical work he can't do himself and has to hire out.

After eight years of military life, John found himself out of the Army and alone. In only a few months he went from being a gainfully employed family man with a wife and son to being unemployed and single.

The next several months were a time of transition. John went back to college for a semester before getting a job as a newspaper photographer. During that time he contemplated what he wanted to do for a living, and his thoughts kept returning to the wilderness. He realized a rare opportunity lay before him: responsible only to and for himself he could freely ask,



*A stairway made from logs, using a chain saw, hammer, and chisel. The steps are set into the split log.*



*A selection of earthenware containers used for cooking and storing water*

“What do I want to do for the rest of my life? What am I looking for?” He had seen different jobs, lifestyles, and cultures. He had some knowledge and talent. His answers kept taking him back to the wilderness, and to a free, independent, self-sufficient lifestyle. He knew he wanted that log cabin from his boyhood dreams, but the next question was more specific: “What exactly do I need to know?”

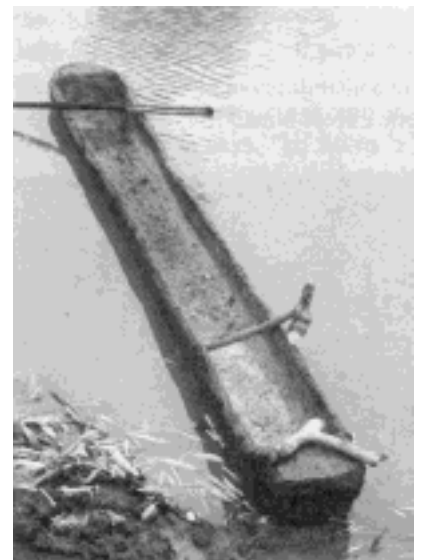
Although John had grown up appreciating the wilderness, he realized he had no knowledge of living self-sufficiently. He didn't know how to cut logs, build a cabin, produce or gather his own food, or live without electricity. His plan was to support himself as a newspaper photographer while he learned what he needed.

He hit the library and the newsstands, looking for information on living self-sufficiently. *Mother Earth News* became a primary source of information. Living in a small, rural Kansas town provided an opportunity to learn from older people. He started gathering old tools and working for local farmers, helping them with crops, fences, tending livestock. He spent a summer helping a friend build a house, and he learned about pouring concrete. He installed a wood stove in his house, both as supplemental heat and to begin the transition away from gas. He bought a chain saw and started learning which trees made good

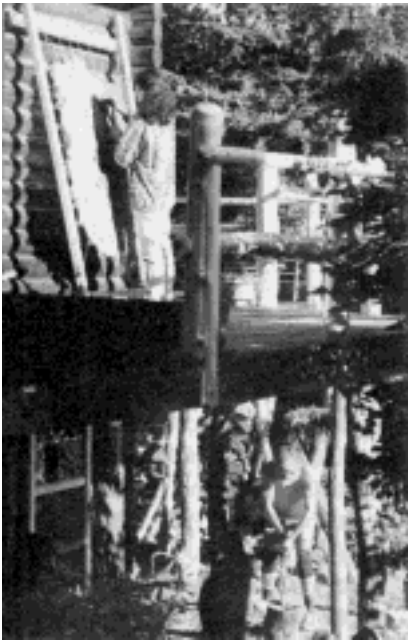
firewood and how to cut them. He planted a garden and started learning to preserve his own food.

An early milestone came for John in 1975 when he got rid of his television. He found he had been spending more time watching what he wanted to do than he spent doing it. That same year he made his first bow, tanned a calf skin, and made his first friction fire.

A lump sum payment from the Veterans Administration in 1977 provided the small down payment John



*A 20-foot dugout canoe nearing completion. It started as a 30" diameter cottonwood, chopped down, squared into a beam, and hollowed out— all with stone tools.*



*Geri de-hairs a skin  
while John splits wood*

needed to buy the land where he now lives. He had become self-sufficient and knowledgeable enough to start building his own house and to raise his own food.

One of John's goals was to build the house without using electricity, to use



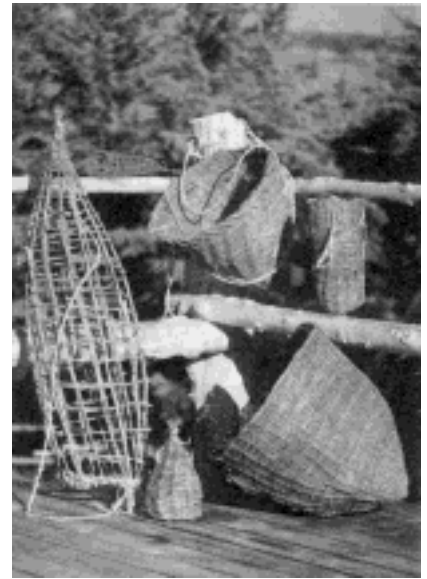
*A collection of tools used in  
various projects. Nearly all of  
them were made using primitive  
methods (such as burning holes  
with fire made with a hand drill).*

only chain saws and hand tools. In 1978, John's back was still strong enough to cut the trees he needed for the first course of logs. He cut the trees, squared them off, and laid the logs on the concrete walls. He made the roof flat, planning to build up from it sometime in the future.

The initial house was a 736 square-foot walk-out basement. Planning to build in stages, John moved in the next year (1978), as soon as he had a floor and roof. It was another milestone. He and his (former) wife were living without electricity. They had a large garden (40' x 100') and canned all their food, and they raised and butchered their own hogs and steers. They used a propane refrigerator, wood heating and cooking stoves, and kerosene lamps.

They hauled water in gallon milk containers from the town of Randolph, two miles away, until the water system was completed three years later. Planning a simple gravity-flow system, John had a well drilled and purchased a windmill for \$300 from a friend. The base of the windmill is 10 feet above the floor level of the house. The hardest part of installing the system was jackhammering the 142-foot water line trench from the tank to the house. Three feet of limestone and flint had to be cut through to lay the line. Unable to do that work himself, John recalls, "I rented the jackhammer and bought a lot of beer for my friends."

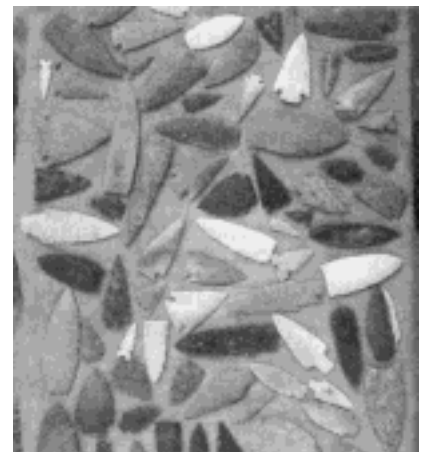
In 1985, John and his second wife parted ways. She began moving more into the modern world and John, moving more toward the primitive, began making the Mountain Man Rendezvous circuit. For the next couple of years, John attended the Rendezvous and taught brain tanning, bow-making, and friction fire techniques. It was following one of these rendezvous that John wrote and published his first book, Brain Tan Buckskin. In 1987, he wrote and published his second book, Primitive Fire and Cordage. It was also at one of these Rendezvous



*When gathering, you need a way to  
carry things. Here are some of the  
couple's baskets, most of which can  
be made in a short time. The large  
one on the left took about three hours,  
including the carrying strap.*

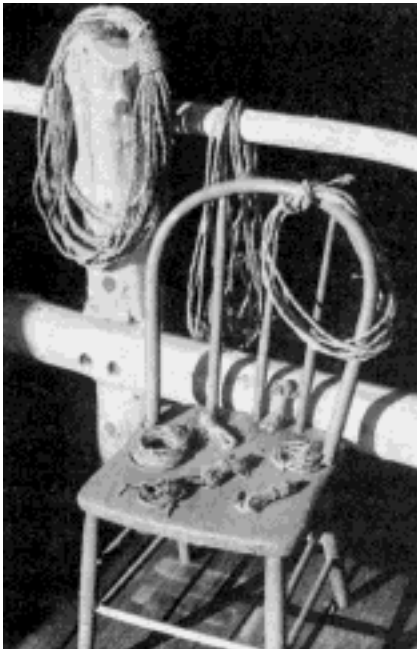
that he and Geri met. Traveling the same road, they were married in December 1987.

Construction on the upper level of the house was begun in 1990. Unable to cut and haul the logs, John purchased milled logs. John and one of his older friends, 70-year-old Argel Pultz, were the only full-time workers. The work took its toll on John's back,



*Sharp, useful tools can be made using  
the ancient art of flint knapping. Here  
are some examples of John's work.*





*Making cordage is an essential primitive skill. Here are examples ranging from a short fishing line to a 60-foot 3/8-inch rope—all made by hand from locally-gathered natural fibers.*

and he almost had to hire the work done. He learned his limits: as long as he didn't do too much at one time and quit whenever his back told him to, John found he could do the work. The addition, including a loft, added another 976 square feet of living space to the house. Later, John and Geri added another bedroom and library (448 square feet) making the complete house 2,160 square feet.

Although John would still like to retreat to the mountains and live a truly primitive life in the wilderness, his back condition doesn't permit further withdrawal from modern society and medicine. The success of his first two books convinced him, instead, to write a series of how-to books on primitive skills. Because there was such a lack of information available when John began his quest for self-sufficiency, sharing what he and Geri have learned is very important to them.

John chose to publish his books under the name Prairie Wolf, the

Indian name for the coyote, because the coyote hasn't just adapted to the modern world, it has thrived.

The original series contains ten how-to books covering the subjects of tanning, fire and cordage, bows and arrows, obtaining sustenance, cooking methods, containers, tools, and semi-permanent shelters, all done primitively, directly from nature. John wrote the first two books himself, and he and Geri together wrote the others. The series was consolidated in 1994 into one large volume: Primitive Wilderness Living & Survival Skills.

As a complement to the book, John and Geri have also produced six videos showing the skills of brain tanning, primitive fire and cordage, the primitive bow and arrow, dressing a deer, primitive shelters, and the Asiatic composite bow.

Writing and publishing challenged the McPhersons' electricity-free lifestyle. At first John wrote the books using a typewriter and took the manuscript to a typesetter. That proved to be inefficient, but running a computer without reliable energy was worse. After their third book, the McPhersons purchased a home computer system. The computer reduced production costs and gave them more control of their final product, but getting power to it was a problem.

They began by using a generator, but soon tired of the noise. Someone offered to set them up with a solar system at cost, in trade for a week of Primitive training, and they jumped at the opportunity. Their system consists of two 4-foot-square sections of panels and six, 6-volt golf cart batteries. This provides ample power for the two computers and for the VCR system they added for their video production.

Along with writing the books come the tasks of publishing and marketing. Unable to find a publisher willing to buy and produce the books the way John wanted it done—with all the photographs included—John began marketing the books himself. He has



*Naturally made buckskin*

built mailing lists, identified retail outlets, and learned to utilize direct mail advertising. (More self sufficiency.)

Teaching primitive skills and tending to the details of marketing their books and videos consumes much of John and Geri's time . . . more than they would like. They prefer to spend their time perfecting and enhancing their primitive skills or researching, through doing, material for their next book.

This fall John will gather cedar logs to start a new project, a 10x12 log cabin. A nearby landowner wants to take down some trees, so John will take advantage of the harvest. He and Geri will also spend some time perfecting the log canoe that they and local youngsters have spent the last two summers making, using only stone tools.

With the onset of cold weather, indoor activities will resume: making pottery, bows, and arrows, tanning hides, reading and writing. Geri is currently writing a novel that is set during the Stone Age. The work calls upon her knowledge of primitive skills, lending a unique perspective to her descriptions of the daily activities of aboriginal people. John and Geri are also researching Volume II of their how-to book, the next phase of their journey to self-sufficiency.

The McPhersons' book, Primitive Wilderness Living & Survival Skills, and their videos are available by writing to Prairie Wolf, PO Box 96C, Randolph, KS 66554. You can also order their book through *Backwoods Home*. Δ



## Beans — they may be a poor man's meat, but they are also the gourmet's delight

By Richard Blunt

During the last half of the 20th century people have become as concerned with nutritional value as they are with the quality of taste and pleasure in the food they buy. Before the last World War most of us didn't know the difference between a vitamin and calorie. Today it is a familiar sight to see folks waltzing through the supermarket and spending more time comparing the nutritional information of various foods than actually shopping. My 10-year-old daughter can recite the names of the eight essential amino acids in one breath, without mispronouncing one of them. I don't even know who taught her.

With all of the nutritional awareness in this country, it baffles me that beans don't seem to be fully recognized as an inexpensive, very available food source that is low in fat and calories, and high in complex carbohydrates and fiber. It also has enough essential amino acids to qualify as a fair source of usable protein. Beans can easily be prepared using simple basic recipes that will produce some wonderful tasting hors d'oeuvres, soups, salads, casseroles, stews, and desserts. There are few other foods that are so versatile.

For those model gourmands striving to etch their name in the great book of gastronomical mythology, you can enter the holy war of the French cassoulet and create your own version of this classic meat and bean casserole, baked in an earthenware pot. The French will spend whole evenings discussing the virtues of a true cassoulet, with the same dedication that football fans exhibit when defending their favorite team in the Super Bowl. Not only that, but they do it in French.

In the recipe section I have included a version of the Castelnau dry cassoulet. It doesn't fall into the "easy to prepare" category of bean recipes, but I assure you that every minute spent in preparation of this classic dish will be returned twice-fold in taste, aroma, and absolute eating pleasure.

### Poor man's meat?

At one time beans were called "poor man's meat," but the sweeping interest in Mexican and Mediterranean food in this country has taught us that beans are everybody's food. At one time if asked how we ate beans, many of us would answer, "baked," instantly calling to mind the old franks and beans tradition. Without a doubt Boston Baked Beans has been a signature of American cuisine as few other dishes have been. But I find many folks can't deal with the

syruupy sweetness of this dish and will avoid beans in general because of this association. My daughter Sarah was one of these people until I started experimenting with different bean recipe concepts while working on this column.

Baked beans are a favorite item around our house, and poor Sarah was often forced to eat a second choice on the nights when baked beans were on the menu. When she found out that I was writing this month's column on beans, she was not happy. It finally dawned on me to ask her what it was that turned her off to beans. She answered, "They're too sweet and a little bitter."



I reminded her that one of her favorite snack foods was the spicy bean dip, hummus. She looked surprised and said, "That's not beans."

After realizing that beans were not the culprit, Sarah and I went to work and created a recipe called, Beans for Sarah. If baked beans offend your palate, and you would like to create a simple dish that accents the natural sweetness and hardy flavor of the common bean, you will love this recipe.

### Flatulence

At the risk of sounding inappropriate, I would like to say a few words about an often embarrassing consequence of consuming any variety of dried bean. Flatulence is not life threatening, although I was once in a crowded elevator in Boston's Harbor Towers when the area suddenly filled with that mixture of hydrogen, methane, and hydrogen sulfide gases, carrying those offensive skatole and indole odors. After only one minute of exposure in such a confined space, I confess that I was a little concerned for personal safety.

Intestinal gas is the result of sugars, starches, and fiber reaching the large intestine without being digested. Once there, the harmless bacteria residing in the bowel eat them and give off those bothersome gases as a byproduct of this process. One of the most prolific sources of intestinal gas are what scientists call raffinose sugars. Unfortunately they are found in large amounts in dried beans. These sugars require a specialized enzyme (alpha-galactosidase) to break

them down. However, our bodies don't produce this enzyme, so our intestinal bacteria are left to the task and produce the gases as a byproduct.

There are a number of "gas preventer" products on the market that may help if you are troubled by flatulence. Being one who is troubled with gas, I decided to try one. One company makes little bean-shaped pills that, much to my surprise, cut down on the volume of gas and eliminated that uncomfortable bloated feeling. Unfortunately, odor was still a problem. Over the last few months I have learned a few tips that also help to reduce gas generated by bean consumption.

1. Cook your beans completely. By completely I mean soft without being mushy.
2. Discard the water that you soak the beans in. This water is loaded with raffinose sugars.
3. Many bean recipes call for the addition of onions, cabbage, and other potential gas producing vegetables like broccoli. Try reducing some of these ingredients.
4. Always carry a book of matches (no joke). A lit match produces ozone which oxidizes those mortifying odors.
5. Learn to point to someone smaller than yourself when you're the culprit.
6. If all else fails, make friends with other bean lovers, and hang with them as much as possible.

## Cooking tips

As I stated above, beans benefit most from simple, basic cooking techniques. With this in mind you will find my list of cooking tips short and uncomplicated. To develop the best flavor and consistency in all of your bean recipes:

1. Spend a few minutes to plan your bean usage for any period of time. Cook a large enough quantity of beans to cover your needs. Drain, cool, cover, and refrigerate or freeze them until you are ready to use them. This is called the "bean pot method." When the pot is empty repeat the process. Keep in mind that most beans always taste better and have a better texture a couple of days after being cooked.
2. Do not soak beans overnight. There is no advantage to soaking beans for more than four hours. I have discovered that black beans require as much cooking when soaked as they do without soaking.
3. Invest in a couple of earthenware bean pots and casserole dishes. Beans cooked in this type of pot have a flavor that cannot be achieved using a metal pot. As a matter of fact, the great authority of Mexican cuisine, Diana Kennedy, suggests that beans should never be stirred with a metal spoon. When the great ones speak, I listen.
4. Do not add salt or any acid sauce to beans until they are thoroughly cooked. Accomplished chili and Boston Baked Bean makers have discovered that adding partially cooked beans to the acid environments of tomatoes or molasses will

prevent the beans from getting any softer no matter how long they are cooked.

5. Cook beans very slowly in a covered pot. Most beans require 1 1/2 to 2 1/2 hours of slow cooking time. Faba, garbanzo, and soy beans will need about 3 hours.

The recipes that I have selected to share with you all call for a type bean, and these recipes are selected and developed to suit my personal taste preferences. If you do not have the type of bean that is called for, replace it with the bean of your choice.

Not all beans are created equal; each type has a special flavor and texture. I am sure that if you have not already developed a preference for any particular type of bean, it will not be long before you do. I prefer the taste of any variety of common bean (navy bean, pea bean, pinto bean, mung bean, kidney bean to name just a few ) over the taste of the broad bean (lima bean or faba bean). I avoid faba beans because my father's side of our family has had problems with Favism, which is a type of anemia caused by the consumption of faba beans. In severe cases, simply inhaling the pollen of this bean's flowers is enough to cause problems.

Because of my own preferences and concern for my health, the cassoulet recipe I am going to present is far from being classic. The classic version calls for faba beans as a first choice, with lima beans as a distant second. Having said that let's begin the recipes with this French classic.

## Cassoulet

Despite the fact that this dish can cost big bucks at any French restaurant, it is in reality a basic country food that calls for ingredients that are common in many French kitchens. Even if you decide to pass on preparing this for your next family get-together, I think that you will enjoy reading about how complex simple food can be.

This recipe calls for a goose confit (pronounced con-fi) which is another name for preserved goose. When prepared properly, this stuff holds in the refrigerator for months.

Most recipes suggest that it be held in the refrigerator for 3 or 4 months before using it. Even though the meat is cooked in, and preserved in, a large volume of fat, the finished product is fairly low in fat and has a wonderful flavor. I included this in the recipe because it is one of the few luxury foods that I enjoy. But I don't feel that a cassoulet will fail without the inclusion of the goose confit so you will see that I have listed it as optional in the list of ingredients for the cassoulet.

### Ingredients for Goose Confit

- 1 goose (about 10 pounds)
- 2 Tbsp Kosher salt
- 6 whole black peppercorns
- 1 bay leaf

### Method

1. Cut the goose into quarters and remove as much fat as possible. Place the fat in a heavy-bottom pot and melt it slowly. Add the goose quarters, salt, peppercorns, and bay leaf. Cover the pot and cook over low heat for two hours. Remove from the heat and allow to cool without stirring.

2. When the goose has cooled and the fat settled but is not yet stiff, spoon some of the fat into a large preserve jar or stone crock. Lay one of the goose quarters in the jar and cover it with more fat. Continue this sequence until all of the goose quarters are in the jar and covered with about a half inch of fat. Use only the fat, do not disturb the meat juices. Cover the jar tightly and age in the refrigerator for at least 4 months. I recommend 5 months.

3. Now, pretend it is five months later, and you are ready at last to create your classic Castelnau dry cassoulet. If you really want your cassoulet to be a winner, I suggest that you carefully consider the sausages you select. The character, taste and texture of the sausage selection, is in my opinion, the signature of the individual cook. The taste and texture of sausage mixtures vary according to continent, country, region, town, hamlet, neighborhood, street, as well as religious, ethnic background, and taste preferences. So please feel free to use the type of sausages that represents your region and personal tastes. Keep in mind one type of sausage should be a type that will hold its character when cooked in liquid for a long period of time. The other should be somewhat spicy and roast well.

### Ingredients for cassoulet

1 pound of dried white kidney beans (or other white beans)  
water to soak the beans  
2 Tbsp salt free butter  
4 Tbsp extra virgin olive oil  
2 medium white onions diced fine  
4 cloves of minced garlic  
1 Tbsp flour  
4 raw ham hocks  
1 pound kielbasa (boiling sausage)  
4 oz lean salt pork  
8 oz piece of fresh pork shoulder or butt  
1 1/2 cup fresh diced plum tomatoes (peeled and seeded)  
1 large bouquet garni (fresh basil, thyme, flat leaf parsley tied together in a piece of cheesecloth)  
2 whole cloves  
4 whole black peppercorns  
3 cups fresh beef stock  
3 4 oz center cut pork chops  
3 4 oz loin lamb chops  
1 pound venison sausage or other course textured spiced sausage  
4 pieces preserved goose (this is the optional confit)  
2 medium white onions sliced

2 medium carrots chopped  
1 cup bread crumbs  
3 Tbsp soft unsalted butter

### Method

1. Pick over the beans and discard any that don't look right, then soak the beans in cold water for at least 4 hours.

2. Heat the butter and olive oil in a heavy-bottom pan, add the diced onion and garlic and cook over a medium heat until the onions are translucent. Stir in the flour with a wooden spoon and cook the mixture for five more minutes.

3. In a large earthenware casserole (at least 4 quarts or larger) combine the onion mixture, ham hocks, kielbasa sausage, salt pork, pork shoulder, fresh tomatoes, drained beans, bouquet garni, whole cloves, peppercorns, and enough beef stock to just cover the mixture. Cover tightly and bake in a preheated 325 degree oven for 2 to 2 1/2 hours or until the beans are completely cooked.

4. Remove the beans from the oven and reset the oven to 375 degrees. Combine the pork chops, lamb chops, venison sausage, preserved goose, sliced onions and carrots, and 4 oz of beef stock in a large roasting pan.

5. Roast them all together removing each meat as it becomes cooked, and setting it aside in a covered container. Discard the onion and carrot. Since the goose is already cooked, it can be removed as soon as it becomes hot.

6. Remove the kielbasa sausage, ham hocks, and pork shoulder from the beans. Cut the fat from the ham hocks and discard it. Scrape off any meat from the hocks and return it to the beans.

7. Add any pan juices from the roasted meats, along with the venison sausage, pork chops, and lamb chops. Cover the casserole and return it to a 325 degree oven for one hour.

### Final Preparation

8. Remove the casserole from the oven and separate all the meats. Spread the beans in a large shallow casserole; slice the sausages, and pork butt to desired thickness. Arrange the meats on top of beans in a desired order. Make it cute.

9. Mix the bread crumbs with soft butter and spread evenly on top of the cassoulet. Bake in a 375 degree oven until brown. Serve immediately. It will serve 5 to 6 adults

One final word: Try not to cut any corners when you make this for the first time. If you do, you will never experience the real delight of this wonderful dish. Good luck.

## Beans for Sarah

This is one of those bench-job recipes that gives me a tremendous sense accomplishment and satisfaction when they turn out right. The recipe also marks a milestone in my life. My daughter offered to help me research and assemble a recipe for the first time ever. The delicate balance between



the strong taste of cabbage and the light sweetness of Granny Smith apples is a result of her natural ability to taste a food and suggest accurately what is missing.

**Ingredients**

1 1/4 cups dried pinto beans  
Water to soak beans  
3 Tbsp extra virgin olive oil  
12 oz green cabbage (diced small)  
2 cloves minced garlic  
1 1/2 cups low salt chicken stock (fresh or canned)  
1 cup apple cider  
1 large onion (diced medium)  
1 large carrot (peeled and diced medium)  
1 stalk of celery (diced medium)  
1 bay leaf  
3 whole cloves  
4 oz piece of lean salt pork (optional, for additional flavor)  
1 cup peeled, seeded, and diced fresh plum tomatoes  
1 cinnamon stick (broken in half)  
1/4 cup apple brandy (optional)  
3 Granny Smith apples (peeled, cored, and diced medium)

**Method**

1. Soak the beans for 4 hours in water. Drain and discard water.
2. In a heavy-bottom pan heat the olive oil and saute the cabbage and garlic until the cabbage is tender.
3. In a large heavy-bottom pot, combine beans, chicken stock, apple cider, onion, carrot, celery, bay leaf, and cloves. Bring to a boil over high heat and remove from the heat immediately.
4. Transfer the bean mixture to a bean pot or earthenware casserole, add the salt pork, cabbage mixture, tomato, cinnamon stick, and apple brandy.
5. Cover the casserole, place it in a 325 degree oven for one hour, then add the apples and bake until the beans are tender, about 1 1/2 hours. Total cooking time 2 to 2 1/2 hours.

**Poor man's pierogi with red beans**

Here is what seems to be an unlikely combination. I first tasted this hearty meal in October of '65 while fishing for striped bass on Race Point Beach on Cape Cod with four market fisherman during a midnight high tide. The bass hung in, chasing bait fish for about two hours, and I nearly worked myself into a coma trying to match these pros cast for cast. At about 2:30 A.M. things started to quiet down and I walked out of the surf and collapsed from exhaustion on the sand. After my unknown fishing companions stopped laughing, one of them came over and asked me if I would

like to share some "poor man's food" with them. I was cold, wet, and very hungry; plus they had a warm fire and I didn't. A giant man with a ragged graying beard, and a soft friendly voice, reached out to shake my hand, "How ya doin' big guy, my name is Howard. Hope you like Pierogi and red beans, cause that's all we got." The five of us sat for the next half hour and feasted on this wonderful and simple dish, spooning cold noodles onto our plates from a large casserole and topping them with hot kidney beans seasoned with smoked chourico sausage.

This brief interlude was suddenly interrupted when a bunch of hovering sea gulls signaled the return of a school of bait fish. This meant that the stripers were not far behind. So I was left sitting next to a waning fire and an empty pot of beans, while these supermen returned to the surf. I laid down and went to sleep.

I fished with Howard every fall for about ten years, and badgered him until he taught me to make his "poor man's food." Both of these recipes are best when prepared and allowed to mellow in the refrigerator for a couple of days.

**Ingredients for the noodles**

12 oz (dry) medium egg noodles  
4 oz unsalted butter  
1 1/2 lb green cabbage (diced medium)  
1 large white onion (diced medium)  
4 cloves of minced garlic  
1 Tbsp fresh ground black pepper (no kidding)  
1/4 tsp ground nutmeg  
6 dried juniper berries (crushed)  
1 oz warm gin  
1/2 cup fresh beef stock

**Method**

1. Cook the noodles in lightly salted boiling water until just tender, drain and cool under running water. Set aside.
2. Melt the butter in a large fry pan over medium heat and add the cabbage, onion, garlic, black pepper, and nutmeg. Saute until the cabbage is tender and translucent.
3. Combine the juniper berries with the warm gin in a flame proof bowl. Ignite the gin with a match and allow the flame to burn out. Combine this with the beef stock and add to the cabbage mixture.
4. Reduce the heat and cook the cabbage mixture for about 30 minutes, or until the cabbage is very tender. Stir every few minutes to prevent burning.
5. Combine cabbage with noodles in a large casserole, cover and refrigerate until the beans and sausage are ready.

**Ingredients for the red beans and sausage**

1/2 lb dry red kidney beans  
water to soak the beans  
3 large ham hocks  
2 cups water

1 cup light fresh beef stock  
1 cup of your favorite beer or ale  
1 cup celery (diced medium)  
1 1/2 cup onion (diced medium)  
1 cup red bell pepper (diced medium)  
2 bay leaves  
8 oz smoked chourico sausage (cut into 1/2 inch pieces)  
2 tsp dried cilantro  
2 cloves minced fresh garlic  
1 tsp chopped fresh mint  
1 tsp dried oregano leaves  
1 tsp ground coriander  
1/2 tsp cumin powder  
1/2 tsp cayenne pepper  
1/2 tsp black pepper  
2 fresh tomatoes (peeled, seeded, and chopped)

#### Method

1. Soak the beans for at least 4 hours in cold water 2 inches above the beans. Drain and discard soak water.
  2. Place the ham hocks, water, beef stock, ale, celery, onion, red pepper, and bay leaves, in a large heavy-bottom pot, cover, bring to a boil, reduce the heat and simmer until the meat is fork tender.
  3. Remove the ham hocks and set them aside. Add the beans to the stock, bring to a boil, cover, reduce the heat and cook the beans over a low heat until just tender.
  4. Remove the meat from the ham hocks and combine with the sausage. Stir these meats into the beans along with the remaining ingredients. Transfer this mixture to a large earthenware casserole, cover and place into a preheated 300 degree oven. Bake until the beans are very tender and the sauce has thickened. This should take from 1 1/2 to 2 hours. Check the casserole occasionally and, if the beans become dry, add more beef stock as needed.
  5. During the last half hour that the beans are cooking, place the noodle mixture in the oven to heat.
  6. Serve the red beans and sausage over the noodles.
- Before closing, let me add that you shouldn't be alarmed by the heavy seasoning in these dishes. Beans are a heavy carbohydrate food. Strong flavors like the soy based sauces of China, the curries of India, and the chillies of Peru and Mexico are designed to flavor beans and other starches. These starchy foods both absorb and dilute the strong flavor of the seasonings in the sauces. On the other hand, these same sauces, when served with meats, are really potent. So don't be bashful with the flavor enhancers when cooking with beans.

Good luck until next issue. Δ

### A BHM Writer's Profile



Richard Blunt

Richard Blunt is the *BHM* Food Editor. His articles in *Backwoods Home Magazine* are more than just collections of recipes, they are instructions for how to create a dish then how to vary it to suit your tastes with explanations of how each step and ingredient affects the final product. His column is written to appeal to all readers, from beginners who want to learn how to cook well to

experienced chefs who want to experiment and broaden their horizons.

Blunt is well qualified for the task. His career in the food industry spans more than three decades. What began as a desperation job as a teenage pot washer in Cambridge, Massachusetts, developed into a thirty-year learning experience that has found him presiding over the kitchens of exclusive restaurants in the Greater Boston area. Since then, he has worked as senior manager for three large food management companies, and he is currently Assistant Director of food service at a large hospital in Massachusetts. He lives in Connecticut with his wife and three children.

### A BHM Writer's Profile: Marjorie Burris

Since 1970, when Marjorie Burris and her husband bought their 40-acre homestead in the central Arizona mountains, necessity has forced them to learn self-sufficiency. They use native plants for medicine, cure their own meat, and maintain and repair all their equipment.



Burris grew up in southern Illinois, but has lived most of her adult life in the west. She is a registered nurse, specializing in operating room nursing. Her greatest pleasure has been watching her three boys grow up in the backwoods. Now they bring their own children to the homestead to pass along backwoods values and skills.

Burris began writing after she retired from nursing. Her articles and stories have appeared in *Backwoods Home Magazine* and other publications.

## The amazing aloe

By Ruth Adler

“Ouch,” shouted Mary, as she inadvertently spilled hot coffee on her hand. Instead of running to the medicine chest for a commercial ointment, she snipped off a large leaf from the aloe vera plant on her kitchen windowsill ledge and squeezed the gel-like liquid on the burn on her hand.

Silly? An old wives tale? Perhaps, but aloe has proven effective for Mary and many others to soothe minor burns or even sunburn. Prompt application of the clear gelatinous interior of a split stalk of aloe to burns and cuts almost guarantees a fast, painless, no-scar recovery.

The versatile aloe plant is native to South Africa, where it grows in tall, grass-like stalks. The plant belongs to the lily family and varies from species a few inches high to giant forms growing 30 feet tall. The thick, fleshy leaves are armed with spines along the edges and are sharply pointed at the tip. In mild climates, they are used in landscape planting, and they are familiar greenhouse perennials in cooler sections of the country.



In herbal medicine, the raw pulp of the aloe is used as a balm for burns, scrapes, sunburn, and insect bites, as well as to promote healing of these injuries. A university research team even found the aloe to be the most efficacious treatment for minor radiation burns.

The aloe today is renowned for its use in skin care products, burn salves, and suntan lotions. Some cosmetic companies recommend their products for smoothing wrinkles on the face and neck.

Test the legendary power of the aloe yourself by growing this Biblical plant in your own home. It is easy to grow, readily available at any nursery, and simply thrives under all conditions, even the warm atmosphere of dry air and central heating in our homes. Give it lots of sun, and water it moderately during summer and winter. There is no need to keep the plant almost dry

during the cold months, as there is with other succulents.

When watering, avoid dropping moisture into its rosette of leaves. Feed it with a 20-20-20 fertilizer mixture once every few months.

If you would like to retain some of the gel in the refrigerator for your convenience, here is how to go about it: Remove a large leaf, cutting it off close to the base, and wrap it in plastic, but leave the cut end open. Use a rolling pin to press the gel out of the plant onto a piece of foil. Then, using a spoon, carefully scrape the gel into a clean, covered container and put it in the refrigerator until it's needed. When you use it, spoon a small amount out of the jar and then put it back in the refrigerator.

The aloe plant is capable of sending out large clusters of bell-shaped blossoms from early March until July, but it is rare to have this occur in your home.

You can easily propagate new plants, too. The aloes send up suckers from their base. These small plants can be dug up with some roots attached and then placed into their own pots filled with a light well-drained soil.

Enjoy the versatile aloe plant in your own home and judge for yourself its healing attributes, its easy care, and its beauty. Δ

### A BHM Writer's Profile: Ilene Duffy

Ilene Duffy is the Business Manager for *Backwoods Home Magazine*, and she also has written articles and book and video reviews. As the main proofreader for each issue, she is responsible for the remarkably low number of typographical errors that appear in *BHM*.

Ilene formerly worked as a bilingual kindergarten and first grade teacher for nine years in California. She gave up teaching to become *BHM*'s business manager shortly after she married the magazine's publisher, Dave Duffy. She says the biggest benefit of working with the magazine is the freedom it offers her to work at home so she can be with her three young sons, and to raise her family in a quiet, country setting.

Since the magazine has moved to Gold Beach in Oregon she has become a fresh and salt water fishing enthusiast, catching and cooking king salmon from the Rogue River and catching and cooking the many bottom fish from near the Gold Beach Reef, located a few miles offshore. She buries the fish carcasses in her big garden to help her vegetables grow.





# Everybody *talks* about lightning — and yes, there *are* things you can *do* about it

By Albert H. Carlson

What was a beautiful sunny day with large white billowing clouds low on the horizon has turned progressively darker. The clouds are now almost black, and the temperature has dropped. You are now sure that you are in for a real storm . . . but not just any storm: a *thunderstorm*. One with a spectacular light show and driving rain. In fact you are about to come face to face with nature's largest and most regular display of electricity, *lightning*.

Static electricity builds up on the clouds as they move through the sky. Charges of *several million volts* are not uncommon. Whenever a charge builds up, it will seek to neutralize itself. This is because all systems attempt to come to rest in the state that requires the lowest energy. In the case of the earth and the surrounding environment—of which the sky is a part—the lowest state for electricity is usually found in the earth itself. This is normally called *earth ground*.

Because the air itself is an *insulator*—meaning that current does not readily flow through open air—the charge in the clouds must reach large values before it will *arc* across the air. Another example of this type of phenomenon is the spark jumping the gap of a spark plug in your car. When electricity arcs, it is visible to the

naked eye and can be heard. When it happens in the sky, it's called lightning and thunder.

Lightning contains *a lot* of power. Lightning typically delivers 100,000,000 volts and can create heat along its path of up to 60,000 degrees F. Bolts of lightning most often branch out many times like a large Christmas tree. They

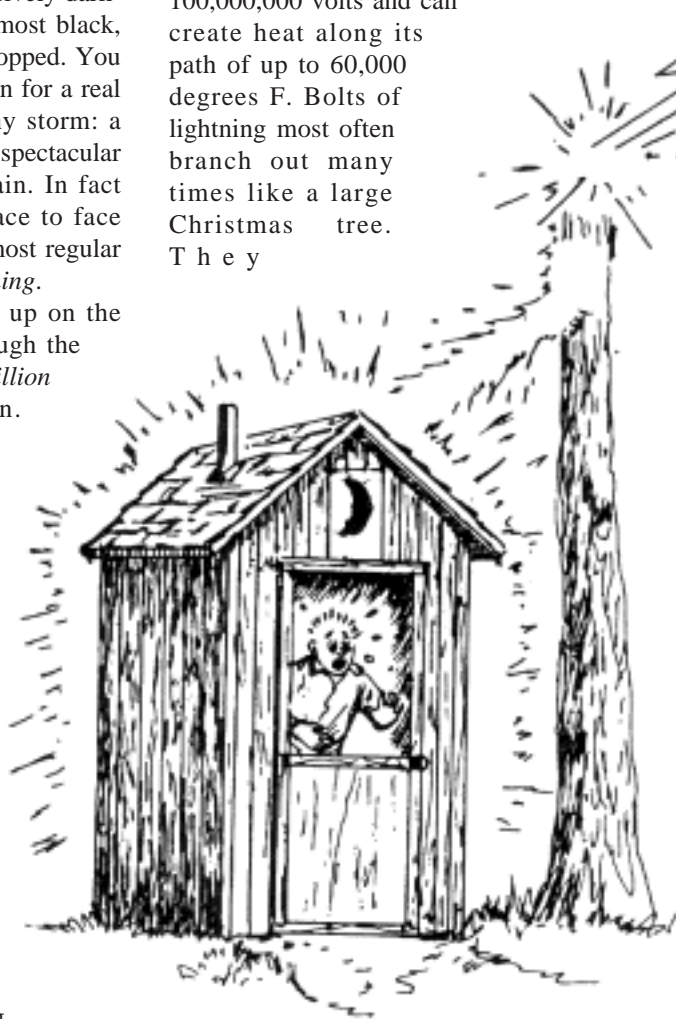
cloud to another. This is to be expected, because there is a smaller distance from cloud to cloud than there is from a typical cloud to the ground. The resulting lightning can come in sheets and light the sky. Ground strikes are less common, but much more frightening. They frighten us because cloud-to-cloud strikes don't hit us (or things near us), whereas ground strikes may.

## Air as insulator

Air belongs to a class of materials called *insulators*. All materials fall under one or the other of the following classes: *conductor*, *semiconductor*, and *insulator*. *Conductors* allow electrical current to flow easily. *Semiconductors* resist electrical current flow unless a foreign substance, called a *dopant*, is added. Dopants are usually phosphorus or boron. *Insulators* resist electrical current flow vigorously.

Current *will* flow through an insulator *if* there is a sufficient voltage difference at either end of the insulator. We can measure how well an insulator resists the flow of current; the resistance is measured

in *ohms* per unit area. If an insulator has a rating of 10 ohms per unit area and is 15 units long, the total resistance is 150 ohms. It's easy to see that if the distance between two clouds is 1000 meters, while the distance between a cloud and the ground is 3000 meters, then the resistance



usually occur singly, but occurrences of two and three simultaneous bolts have been captured on film.

Lightning usually takes one of two forms: *cloud-to-cloud* and *ground strikes*. Most lightning is from one

between the clouds is smaller than the resistance between the cloud and the ground.

Because air is an insulator, in order for lightning to arc to the ground, there has to be a *whole lot* of power behind it to break down the insulator and create an intermediate state of air called *plasma*. Lightning follows a path that it continuously creates in front of itself made out of plasma. A small bolt reaches the ground, and then a *much larger return bolt* flows from the ground (or the object struck), back along the exact same path. Therefore, anything that gets hit by lightning gets hit *twice* . . . double the fun and double the damage.

## Light, heat, ionization, explosion

In a lightning strike, electrical power can manifest in one of four ways: *light*, *heat*, *ionization*, and *explosion*. Lightning is very bright, of course. Some of the power in the lightning bolt is *dissipated*, or used up, in the characteristic light associated with it. A similar phenomenon is used to make light in light bulbs. As current flow through the bulb's filament, light is produced, along with heat. Remember that when a tree is struck by lightning it usually catches fire. That's the *heat* in the lightning bolt. Think of the lightning bolt as the filament. Heat isn't as big an effect as it might be (given all that power), because lightning is a *transient*, or temporary, occurrence.

Sometimes a smell of *ozone* is in the air after a lightning strike. Ozone is a form of oxygen in a different configuration than the one we're used to. It has the chemical formula  $O_3$  (that is, the ozone molecule is made up of three oxygen atoms), while normal air is  $O_2$ . So much power is dumped into the air that it actually rips air molecules apart (an example of *ionization*) and rearranges them.

The last sign is *explosion*. When lightning strikes something, so much power enters the thing that is struck that the power can't all be absorbed. The object of the strike tries to convert the power into heat and can't handle all the heat. The result is an explosion.

When lightning strikes an object, a great deal of current suddenly flows through the object being hit. Current has several by-products, including heat, fire, explosion, vaporization, and electrocution. Heat results because everything has electrical resistance. Even metal (a conductor) has a minute amount of resistance, although it is much smaller than in non-conductors. Power is dissipated across a resistor, and the power that is used up changes form and becomes heat.

Since all materials have some kind of resistance, when lightning strikes an object, an enormous amount of heat can be created. Whenever the heat exceeds the *flash point* of a flammable material, it will catch fire and burn. Paper, for example, burns at 451 degrees F, hence the name of the classic novel *Fahrenheit 451*. This explains why trees and wooden buildings catch fire when hit by lightning. If sufficient energy is transferred (as heat) from the lightning bolt to the object that is struck, the moisture in the object becomes gas. That gas expands so rapidly that pressure builds up, and the object explodes. A tree that gets hit and explodes suddenly becomes a wooden grenade, complete with shrapnel, and may drop large limbs on someone standing beneath it.

With sufficient current, the muscles in the body contract. When the muscles contract, the body can involuntarily strike things. This can result in secondary injuries if something hard or sharp is hit, and you could conceivably hit yourself. Muscle contraction begins at about 0.02 amps, less than the current required to light up one light-emitting diode. As long as the current is applied, the muscles remain contracted. The same mechanism is used by the brain to make the body

move. Only 0.07 amps are required to stop the heart, a condition known as *electrocution*. As little as 175 volts can stop the heart if the victim is wet with sweat or other ionized moisture. Electrocution can happen quickly and be complicated by burning and destruction of tissue along the path of the current.

## If you feel it coming, *dive!*

Can you tell when you are about to be struck by lightning? There is often a warning: a feeling similar to what happens when you touch a static electricity generator, or when you take the clothes out of the dryer and separate a staticky sock from a towel. This is to be expected, since lightning starts as static electricity that breaks down the air to neutralize the charge. The result is that people about to be hit can feel the hair on their bodies stand on end and sometimes report a tingling sensation.

If you are in a storm and feel this, *act immediately*. This is all the warning you are going to get. Get as low as you can to the ground. If you are not the highest point around, you are less likely to be hit. If you can find a nearby ditch or draw, get into it. *Rolling* to the ditch is much smarter than *running* there. Rolling in something wet will also help to get rid of the charge accumulation on your body. Avoid holding on to anything metal. If you have a tool in your hand, drop it. If you are touching a metal object, get away from it. If you are on a roof, get off. Don't do anything that will make you a more attractive target for the lightning.

It's easy to detect an oncoming storm with your TV. Turn on your set to Channel 2 and turn the sound all the way down. Next, adjust the set so that the contrast turns the screen just barely black. Lightning will cause the screen to flash white. This works because lightning emits energy on a lot of frequencies at the same time (*broad band emissions*). Since even

the small portion of the lightning energy emitted as radio frequencies is huge, your TV antenna picks this up and tries to interpret it as a picture. The worse the lightning, the more frequent and brighter the screen flashes will be. This will give you some idea when a bad storm is heading your way without having to expose yourself to the weather.

## Lightning rods

Some damage to buildings and land can be averted by employing *lightning rods*. The role of lightning rods is to *attract* lightning and direct its energy to a safe target: the ground. The idea is that you can control where the lightning hits and steer it away from people, property, trees, and livestock. The key to using the lightning rod effectively is to put it up high and *ground* it well. Plan on using three or four on a building to make it really safe.

Lightning rods are lengths of heavy metal, sometimes with radiating metal fingers, that are mounted at the highest point of a building or other structure. They are connected to ground with a heavy wire cable through a stake or ground rod. There is a range of commercially available rods with mounting brackets that work well. See your local hardware or building supply dealer.

After mounting your rod on the highest point of the structure, you must connect it to the ground. Actual earth is the ground that you need. Remember that there will be a *whole lot* of power running through the cable. If you use a small wire, *it will melt*, and then the only path to ground from the lightning rod will be the structure you are trying to protect—so don't skip. You need to use a large cable to connect the lightning rod to the ground. Cable is used, instead of wire, because of the large current that will have to pass to ground if the lightning rod is struck. Since the resistance of wire or cable is directly related to its diameter (higher resistance

for lower diameter), and since the purpose of the unit is to attract lightning by making the path to ground as easy as possible, it stands to reason that the larger the cable, the better. Large lightning rods have cables as large as  $\frac{3}{4}$ " to 1" in diameter. Smaller rods typically use  $\frac{1}{8}$ " to  $\frac{1}{4}$ " diameter cables. Rods that pound right into the roof of a house can usually get away with  $\frac{1}{8}$ " diameter cable. Rods that mount to the roof with a bracket should have  $\frac{1}{4}$ " diameter cable, minimum.

Almost all cable used for lightning rods is stranded cable made of steel. Copper cable is sometimes used when and where available. Although copper tends to have less resistance than steel, it also tends to be more expensive. The difference in resistance is minimal in practice, so use whatever is cheaper. Smaller-diameter wire may be insulated, but don't count on larger cable having any insulation. When mounting the rods, connect the cable and loop it around the base of the rod and then through the mount, if there is one.

Usually the cable is terminated to either a stake in the ground or a buried ground rod. The best metal to use for this purpose is copper. Stakes should be at least four feet long and  $\frac{1}{2}$  inch in diameter. Rods should be at least six feet long and  $\frac{1}{2}$  inch in diameter. Count on changing these every four to eight years, depending on the amount of moisture in the ground.

Do lightning rods work? You bet! They are in use from Chicago to Florida. Wherever you have frequent lightning you will find—and should be using—lightning rods.

## Power surges

Lightning can hit a power grid or generator. This happens all the time throughout the world. Lightning is attracted by the alternating voltage when it drops to its negative value. Typical power grids are 110/120 volt three-wire systems (although there are

also 220 and 440 volt systems). Part of the regular variation in voltage in the system is one of the wires going to the negative peak. In a 110 volt system, voltages will vary between 110 and minus 110 volts. Normally the earth is at *ground* (0 volts), so called because that is the normal voltage of a plot of dirt. As the power lines go below 0 volts, lightning will be more strongly attracted to them. When lightning hits the grid or generator, the energy has to go somewhere, and that somewhere is right into your house! If you haven't protected your home and electronics, there is a good chance that components in one or more of your electrical devices will be destroyed. The more common lightning strikes are in your area, the greater the chance that this will happen to you.

These *power surges*, or *transients* (so called because they are short and powerful), can be handled by using a couple of strategies. The first is to use a *surge protector* on all of the electrical appliances in the house. Many commercial models are available at Radio Shack, building supply stores, and other electrical or computer supply houses. These detect surges and react in a very short time, usually from *micro-* ( $1/1,000,000$ ) to *nano-* ( $1/1,000,000,000$ ) *seconds*. You must manually reset the protector each time it is tripped. Costs range from \$10 to \$100 for five outlets on the strip.

More electrically handy people put *dual transorbs* and *metal oxide varistors* (MOV's) between the power lines and the point of entry to the house. *Note:* Don't attempt this yourself, unless you really know what you're doing; otherwise, call in a professional.

Transorbs are components that carry current after a certain voltage is exceeded. This is called the *trip voltage*. The transorb keeps the voltage between the two lines at a set voltage and won't allow it to go any higher. This prevents your appliances from being damaged by the application of too great a voltage at their inputs.



Transorbs can absorb a lot of current but turn on more slowly than MOVs. They are rated in the number of kilovolts that they can handle. Never use a smaller-rated unit than 1.5 kV. The 5kV units are good all around choices to maximize protection and minimize cost. Most power grids, or power distribution systems, have voltage variations of 10% - 20%. This means that a 110V grid can vary between 88V and 132V, so rate the trip voltage for the transorbs at least 30% above the *nominal*, or rated normal voltage, for your grid. Make sure that you use the type of transorbs for AC (alternating current) lines.

MOVs react very quickly to surges but have the tendency to allow the voltage between power lines to get further apart. In other words, they don't clump well if the inputs vary slowly. Their operational characteristics specify the normal voltage applied to them. As with transorbs, specify the operational voltage at least 30% over the nominal grid voltage.

MOVs and transorbs are placed between individual power lines. And it's worth saying again: Don't attempt this if you are unsure or unfamiliar with electricity. Remember always put **SAFETY FIRST**.

## Counting the distance

There's an old saying that you can tell how far away lightning is by counting the time between seeing the flash of lightning and hearing the thunder. This is absolutely true. The propagation of sound through the air is about 300 meters/second (about 1000 feet/second). Light travels much faster, about 30,000,000,000 meters/second (just over 186,000 miles/second) and is in effect instantaneous. Counting each second ("one one thousand one, one one thousand two") will give you a rough idea of the time elapsed. Dividing the number of seconds by five will give the distance to the lightning in miles.

## Protect yourself

Protecting yourself during a lightning storm is easy. All you need to do is remember a few simple rules:

1. If possible, don't go out in a thunderstorm. This means that you need to be aware enough of the weather to know when one is coming.

2. If you *are* out in a storm, make sure that you are not the highest point. Stay off the top of hills. Don't make yourself look taller to the lightning by holding things up or holding on to trees or structures. Stay off roofs.

3. In a thunderstorm, don't take refuge under a tree. The tree may be hit and explode and turn into shrapnel, or fall on you.

4. Stay away from metal. Metal generally attracts lightning. This also means that you should not shower or bathe during storms. Your pipes are made of metal, and current flows through wet things, including people.

5. Don't sit on the toilet if you can help it. You're sitting right in the way of a direct ground.

6. Pay attention to your body. It will tell you if you are about to be hit. When you feel the warning signs (a feeling of static electricity, hair standing on end, a tingling sensation), take action **immediately**: get low (roll into a ditch if possible).

7. Don't talk on the telephone. The phone lines are not immune to lightning strikes.

8. If you are in a high-lightning area, such as Florida, use lightning rods on your buildings and install surge protection for your house and electronics.

You might survive a lightning strike (many people have), but it's a heck of a lot nicer if you don't have to try.

(Albert Carlson is an electrical and computer engineer. He is currently designing control systems with embedded computers and finishing work on an advanced degree in artificial intelligence.) Δ

## A BHM Writer's Profile: Jennifer Stein Barker

Jennifer Stein Barker has been cooking since she was a youngster in Vermont. She has always loved the backwoods, and moved to a rural site six weeks after arriving in the Pacific Northwest in 1973. Since settling down in remote eastern Oregon with her husband, Lance, she has spent her time working as a part-time botanist, cook, and writer. In 1994, she wrote and published The Morning Hill Cookbook.

Jennifer and Lance have a large garden in an area where summer frosts are common. Meeting this challenge has been a learning experience. With row cover, early and late-season techniques, and selection of frost-tolerant types, they are able to grow a large selection of berry crops, leafy greens, cabbage-family vegetables, alliums (onions and garlic), and root vegetables. Growing the food with which she cooks has shaped Jennifer's whole foods recipes. You won't usually find recipes for corn, beans, and squash in her articles because she doesn't very often have them. What you will find is recipes for foods often ignored by cookbook writers: carbohydrate-based recipes with greens and roots, and whole grain baked goods. They are often cooked in the ethnic styles of the areas where they grow the best. In the last few years, Jennifer has become very interested in solar cookery. She has an array of solar cookers at her home in the Blue Mountains. She has been working on a second cookbook, The Morning Hill Solar Cookery Book, which is now being home published.



# Propane is a multi-purpose fuel, and it has many key advantages

By Matt McEachran

**P**ropane—or L.P.G. (Liquefied Petroleum Gas)—can be a wise fuel choice for you and your backwoods home, barn, or garage for a variety of reasons. It's fairly cheap, environmentally friendly, and best of all, you don't have to live near town, as with natural gas, because there are no pipes to run.

Propane is a by-product of oil. When you burn it, you are mainly releasing water, carbon dioxide, and hydrogen back into the air instead of pollutants. It burns much cleaner in your car than gasoline, and a lot cleaner than your oil furnace.

It is also much cheaper to use in your home than electricity. Propane itself is not cheaper than natural gas, but to install natural gas pipelines in a backwoods home can cost thousands of dollars, compared to the couple hundred that propane will cost to install.

Where I live in Ontario, the price of propane varies from around 28 cents a liter to 40 cents a liter, depending on your usage and the local economy. It varies widely in the United States as well, from 80 cents per gallon to \$1.20 per gallon. Depending on your particular region, you may save a lot compared to oil.

Another factor to consider with propane is that most companies will give you a greater discount, the more propane you use in your home and vehicles. So buying more appliances that use L.P.G. will actively save you money.

Propane appliances today are much more efficient than they were even 10 years ago. You can buy propane-powered furnaces, water heaters, stoves, refrigerators, fireplaces, room heaters,

clothes dryers, barn/garage heaters, lights, and even air conditioners.

Another plus is that these appliances can be converted to natural gas very easily. If natural gas *does* come by your house in a few years, it's a lot easier and cheaper to convert your propane appliances than to sell your oil appliances and buy new ones.

Most propane appliances today offer high efficiency (80 to 85% efficiency). Also, direct vent appliances can be installed without the use of your chimney. Instead, they can be vented with B-vent directly through an outside wall. This is great if you are heating your house with a woodstove and can't share the chimney.

Another great thing about propane is this: if you heat your house with a woodstove but that one room in the

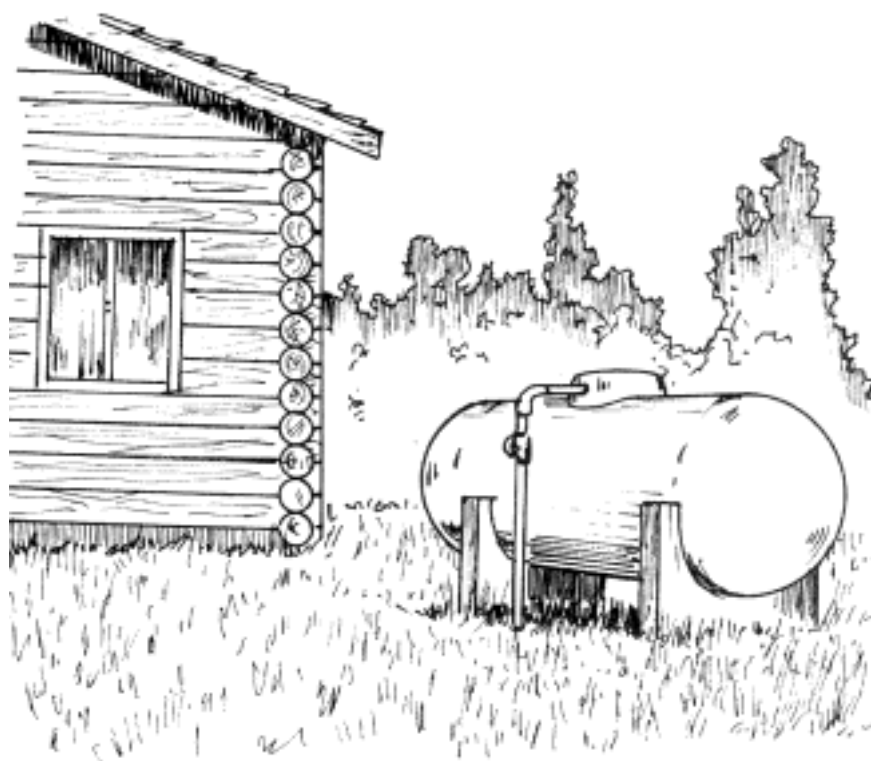
basement is always cold, it is easy to install a room heater.

Whenever possible, buy as many appliances as possible at once, or let the salesmen know that you plan to buy more in the near future. Most places give good discounts when you buy several appliances at once.

## Power failure no problem

Another great advantage of propane is if there is a power failure, you still have heat and a refrigerator and a cookstove that work. A couple of years ago, a winter storm knocked out the power in our neighborhood. We suffered no hardships, as our appliances burned propane, but our friends weren't so lucky. They called us around 8:30 AM to tell us that they were all in winter jackets and blankets. They had no heat and they could see their breath in their house. They came over and ended up staying with us until late that night, when the power was restored.

Propane fuel is great—but how much does it cost to get it? That too



will vary, depending on where you live. In Ontario, the average price to set in a tank and put 10 feet of copper underground to your house is around \$100. Then to be safe, add \$2 a foot to run copper from your furnace, stove, etc. to your outside wall. Depending on the number of appliances being installed, your hours of labor will vary, at an average of \$30 to \$45 an hour.

It's good to have a salesman give you an estimate. He should be able to come to your house and give an accurate estimate as to how long it will take to install and how much it will cost. He can also tell you the best locations for your appliances, according to safety regulations and cost.

When planning your system, be sure to allow for add-ons to your system. The salesman or installer should already have this planned, but be sure and ask. All this usually means is installing a larger size of copper pipe than currently required and adding a tee or two in the copper line near possible expansion sites.

## **For your vehicles, too**

Not only is propane an inexpensive and clean way to fuel your *home*, but it is also an alternative fuel for your *vehicles*. In Ontario, propane is almost half the price of gas, but in some states it is more expensive than gas. However, as with your home, a larger volume used will give greater savings. If you buy propane for your car from a gas station that sells propane on the side, they likely won't give you a discount at all. If you use 75 to 100 liters and up, go to a store that mainly sells propane. A discount of a few cents a liter can save a lot of money at the end of the month.

You may decide that your car does not use enough gas to bother to switch over to propane, and if it's anything like mine (which barely holds 30 liters), you'd probably be right. But that old pickup truck that gets 15

miles per gallon is a great candidate to save some major cash.

Propane is especially good for homesteaders because the tanks are usually much larger than a regular gas tank. My little car holds 30 liters, but it's not uncommon for me to pump 250 liters into a truck. Obviously, this can save on the trips to town. Also, because propane burns cleaner, you can save on oil changes, spark plugs, and engine tune-ups, and even have fewer muffler replacements.

## **Pay attention to safety**

While propane is perfectly safe to use in your home and vehicles, it can be dangerous if used improperly, just like any other fuel.

It's highly flammable but has an odor added to it so that you can tell if it is leaking. If you do smell propane in your house, turn off the tank and then call the company from your neighbor's house. Even the spark that sometimes happens when you turn off a light switch is enough to ignite propane.

When doing construction on or around your house, be sure you know where the propane lines are. You don't want to hammer a nail through a copper line as you hang a picture or put down a floor in your kitchen.

All lines in the house should be labeled as propane, and the copper from the tank to your house should be at least 15 inches deep, and you should keep this line in mind when digging or doing construction.

In a town not far from where I live, a man unknowingly drove a stake into his propane line, cutting it in half, while adding a porch to his house. The vapor eased its way through the ground and through a crack in the wall and filled his basement with vapor. When he went downstairs half an hour later to stoke the woodstove, a spark ignited the vapor, and both the man and his wife were killed. Windows exploded to 30 meters away, and the

first story floor was blown up to the ceiling.

## **Things you can do yourself**

There are some repairs that you can do yourself, and at \$40 per hour you can save a lot of money.

One easy way to save is to have the installer show you how to light the pilot light on your appliances. Pilot lights shouldn't go out unless you turn them off, but occasionally they do, and it always seems to happen after 5 pm on a cold winter night. It'll take you about a minute to light it yourself, which is a lot easier and cheaper than paying the after-hours call-out fee.

Another simple thing is to check the level of propane in your tank. Many propane companies have automatic delivery, but if your company doesn't, or if you live too far away, calling in a few days early, when your tank is around 25 to 30% full, can save you from running out on a weekend or at night.

By now you know that calling a repair man after 5 pm or on a weekend costs you extra. If your furnace or stove gives you trouble at one of these times, try to wait until the next business day before calling the repairman. It's amazing how many people call in on weekends for minor problems that could have waited until Monday, and therefore have to pay the extra call-out fee.

Paying bills on time is a good way to get breaks when you need them and even some discounts. Good customers get good deals on repairs and extra time when something comes up and they need to pay their bill a little late.

For the most economical, environmentally friendly, and convenient way to heat your backwoods home, cook your food, and even light up your porch, be sure and check out the advantages propane can give you. Δ



## Try these smaller breeds of multi-purpose cattle

By Jan Palmer

In 1902, Rand, McNally & Co. published a book entitled Practical Farming and Gardening. Although many things have changed over the past 93 years, many things have remained the same.

Some of the changes? In the book, one of the top beef breeds listed is the Polled Durham. Among the top dairy breeds was the Dutch Belted. Today those breeds are revered by only a handful of "rare breed" enthusiasts. Also in the cattle section was a section for "dual purpose cattle," which might be better described as "multi-purpose," in that they do more than two things. These breeds are the Brown Swiss, Red Polled, and Devon. All three breeds excel at producing meat and milk, as well as draft oxen. Ninety-three years later, these three breeds can still earn their keep on a small farm.

### Brown Swiss cattle

The Brown Swiss was described then as "gray or brown with dark extremities except muzzle which is 'mealy.' Bulls are usually darker colored than cows." Cows weighed from 1,200 to 1,400 pounds, with bulls from 1,600 to 2,100 pounds. That isn't much different from the description of today's Brown Swiss. The book describes their disposition as "dull," but "docile" might be a better word today.

Brown Swiss cows are money-makers in the milk race. Their disposition makes them good family cows, and they're known for their longevity. It's not unusual to see mother, daughter, and granddaughter in the same herd. One of the breed's production leaders is "High Spruce Stretchy Eve," an "elite" cow with an average production per day of 59.4 pounds of milk

since two years of age. She tested in one lactation at 1,668 pounds of butterfat and 1,037 pounds of protein.

According to the Brown Swiss Breeders Association, consumers today are looking for low-fat milk without compromising taste and nutrition. A look at the grocery store dairy case confirms this. Within the span of ten years, they predict that demand for skim milk will increase nearly 60%, while low-fat milk will claim an additional 27% of the market. Demand for cheese is also expected to increase.

A brochure from the Association contains a quote that many farmers will applaud: "Type conformation today means more than just a pretty cow. It means she is functional and she is sound. It means she will be in the herd for more than just a few years." Many Swiss breeders in the breed directory have under 30 cow dairies.

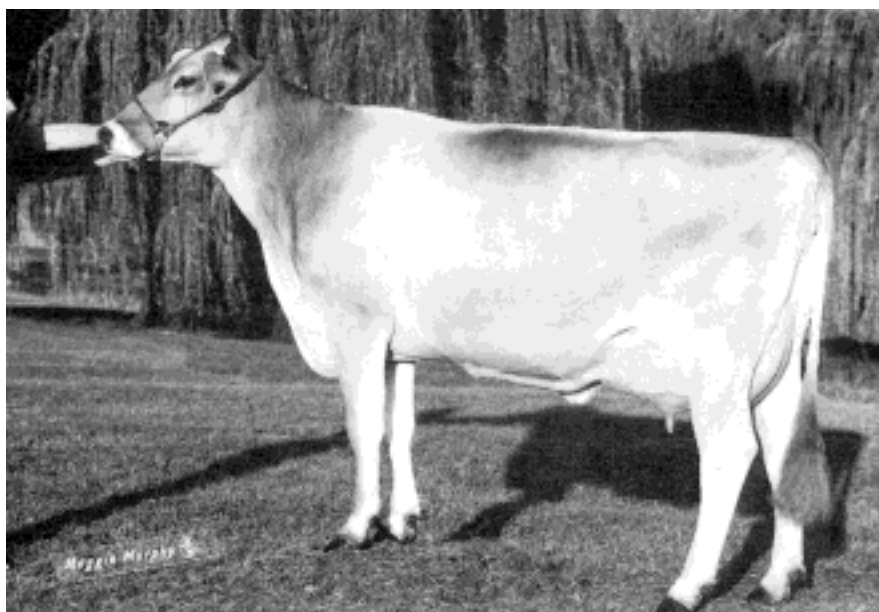
If you're interested in finding out more about the Brown Swiss breed, write to the Brown Swiss Cattle

Breeders' Association, P.O. Box 1038, Beloit, WI 53512-1038. They can give you more in-depth information and a list of breeders.

### Devon cattle

The Brown Swiss has plenty of beef, but that often gets overlooked because of the emphasis on that breed for dairy production. The opposite is true of another of the breeds, which has been developed for beef instead of dairy. The Devon has a long history of multi-purpose talents. According to the Devon Association, records of the red cattle in the Devon section of England (their homeland) date from as early as 23 B.C. In 1850, Colonel John T. Davy of "Rose Ash" in north Devon published the first herd book. His people had been involved in the breeding of purebred Devons for at least 150 years prior to that.

The British favored the Devon for its adaptability, foraging ability, and high quality, tender meat. In 1623, the Pilgrims brought the Devon to America. Their hardy foraging ability fit the questionable grass conditions that the settlers were unsure of. Their moderate but rich milk production



*Brown Swiss milking cow. Photo courtesy of the Brown Swiss Cattle Breeder's Association*

gave them the ability to feed a calf and a family, and their docility and strength made them useful oxen. The Devon made the westward push, and in 1884 the American Devon Cattle Club was established.

The ability to use forage instead of grain, ease of calving, good conformation, and good beef are important characteristics the Devon still possesses today. A good yearling bull was advertised at 50 inches at the shoulder, 58 inches from the point of the shoulder to the pins, and 1,020 pounds. Thus, like the Swiss, the Devon is a larger breed suitable for use as a draft animal, as well as for milk and meat.

Added to the above characteristics are the points of fertility, early maturity, disease resistance, and hardiness, as well as climate tolerance, and the Devon shows qualities that are still fashionable today, despite being in the "rare breed" status. For more information on these useful cattle, write to the American Minor Breed Conservatory, P.O. Box 477, Pittsboro, NC, 27312.

## Red poll cattle

A slogan adopted by the Red Poll cattle producers perhaps best testifies to the breed's multi-purpose billing: "More red meat—The milk to make it pay." In the final quarter of the 18th



*Red poll bull. Photo courtesy of the American Red Poll Association.*

century, English farmers of Norfolk and Suffolk counties had selectively bred two strains or stocks of cattle for their area. The Norfolk cattle were excellent beef cattle, while the Suffolks were known for milk production. About 1880, a tenant farmer, John Reeve, wanted to upgrade his cattle and mated a Suffolk bull to his polled red cow of Norfolk blood. This started a trend.

Polled red cattle were recorded as far back as Biblical times. F.G. Taber of New York imported four foundation cattle in 1873. Before 1900, about

300 Red Polls were imported, and the breed's popularity soared. Numbers diminished with the onset of the world wars, and by the 1960s breeders had adapted to breeding for meat to keep up with demand. In 1972, Red Polls were moved to a beef-emphasis breed.

They are all red, of any shade except with a yellow hue. White is acceptable in but not above the switch of the tail. They are relatively short-haired and polled. In breeding condition, bulls are 1,800 to 2,000 pounds, with cows being 1,200 to 1,500 pounds. Red Polls are well muscled and alert, vigorous and hardy with good temperaments. A century or more of selection for manners has culled out mean, nervous, or flighty animals, making them safe for personal care in a small, family owned situation. The milk is small curd, fine fat white milk said to be nearly "naturally homogenized." The American Red Poll Association can be reached at P.O. Box 3519, Louisville, KY 40232.

The size of these three breeds, combined with their other abilities, make all three breeds excellent candidates for the homestead. The qualities described here can help the small farmer today gain a productive lifestyle, just as they did for farmers nearly a century ago. Δ



*Devon cow. Photo courtesy of The Reverend Bruce Alexander*